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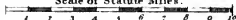
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A GENERAL VIEW



LEICESTER.
— and —
RUTLANDSHIRE.

Scale of Statute Miles.



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W. H. Sturt

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A GENERAL VIEW
OF THE
AGRICULTURE
OF THE
COUNTY OF LEICESTER;

WITH
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT,

PUBLISHED BY ORDER OF
THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

BY WILLIAM PITT,
OF WOLVERHAMPTON.

TO WHICH IS ANNEXED
A SURVEY OF THE
COUNTY OF RUTLAND,
BY RICHARD PARKINSON.

The landscape laughs around,
Full swell the woods; their ev'ry music wakes,
Mixt in wild concert, with the warbling brooks,
And hollows, responsive from the vales.

Incessant bleatings run the hills around,
At last of snowy white the gather'd flocks,
Are in the wattled pen in numbers press'd,
The shepherd sits, and wets the sounding shears,
And soon their joyous task goes on apace.

Now swarms the village, o'er the jovial mead,
The ruddy blooming maid, the rustic youth,
E'en stooping Age is here, and Infant hands,
And as they rake the green-appearing ground,
The raset hay-cock rises thick behind,
In happy labour, love, and social glee.

THOMSON.

LONDON:

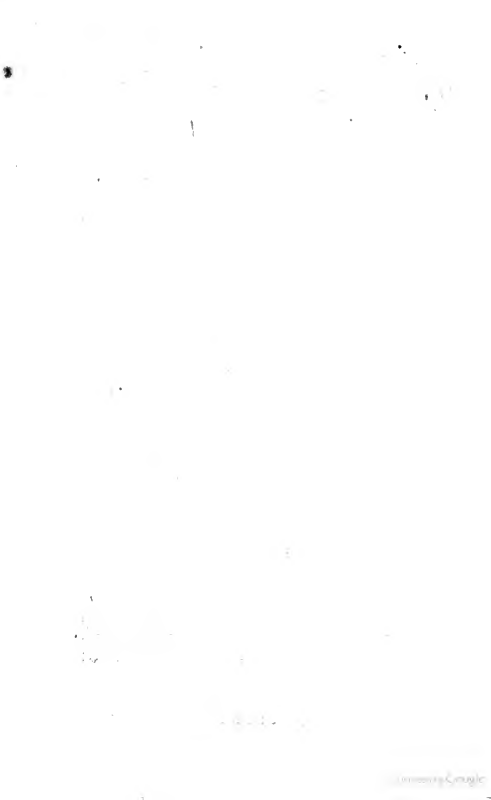
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1809.

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PRELIMINARY OBSERVATIONS

TO THE

LEICESTERSHIRE

RE-PRINTED

AGRICULTURAL SURVEY.

THE Board of Agriculture having resolved to have the different County Reports re-printed, and the subjects therein contained (together with such other agricultural matter, as might be deemed sufficiently interesting) thrown into one uniform system, agreeable to a prescribed plan; and many of the subjects contained in such plan, having been omitted in the former Report, I was commissioned by the President to revise the original Report, and to collect materials for supplying such omissions. Accordingly, I have, at different times, made many tours and excursions through the county, and particularly in the last summer and autumn of 1807; and have had communications with many respectable gentlemen and farmers, who are cultivators of land, and breeders of stock.

The great and distinguishing feature of the county of Leicester, is the extraordinary exertions that have been employed, and the great progress that has been made in the improvement of live stock, sheep, horned cattle, horses, and hogs, and especially the two former kinds; the perfection to which they have been reported to be

a 2

brought

brought, and the high prices that have been stated to be given, have been often formerly thought visionary, ideal, and fallacious; the facts, which the writer hereof has stated from his own observations, and the very respectable information he has received from others, as well as the subject itself, having been more generally and more publicly canvassed, will, it is supposed, remove all doubts, and satisfy the public of these extraordinary facts, as well as, in some degree, remove the wonder, by accounting why such high prices have been, and may still be given: these exertions which still continue, and with great emulation, were very naturally excited by excellent old turf pastures, giving the means of good keeping; and more particularly, by the penetration of the late Mr. Robert Bakewell, of Dishley farm, who very early in life, observed the general neglect, in not making a particular selection of stock for breeding, and, by many years of perseverance, he succeeded in establishing certain rules of form, shape, and disposition, in the animal; from which a certain degree of perfection may be insured to its progeny, even in any reasonable kind of keeping, in a higher degree than where the essential qualities are not inherent.

The improvements that have been thus made, are now so well established, that they are universally acknowledged and admitted, wherever they have been fairly tried, and are personally understood, not altogether by speculators in the breed, but by farmers who breed for the butcher and wool only; and I have never heard an instance to the contrary, where there has been actual personal experience, but have heard many objections made by people at a distance, who knew the subject by hearsay only.

To the Agents of the Duke of Rutland and the Earl
of

of Moira, I am much obliged for their liberality and candour: the latter Nobleman, who had been apprized of the business, had directed every assistance to be afforded, and I was attended by the farming Agent through the neighbouring part of the county; but his Lordship has, upon all occasions, encouraged and patronised every public and private proposal, having for its object the extension and improvement of the commerce, manufactures, or agriculture of the country.

To Mr. Monk's Report I am indebted for such matter as it contained within the present plan, and to many other respectable gentlemen, for their communications; and have farther to express my acknowledgments for the liberality and hospitality I experienced in the county.

From a gentleman of the name of Ainsworth, who formerly resided at Glen-parva, and since at Leicester, I have received much valuable matter; and he deserves great credit for his ingenuity, public spirit, good intentions, and the labour he has bestowed, without expectation, or hope of reward. I have freely used his communications, and shall only premise, that he has not been a practical farmer but on a small scale, that he has had considerable experience in gardening, that his observations are freely made on objects as they strike him, without prejudice, and from his own conclusions; but where I think he has been carried rather too far by theory, I have endeavoured to counteract his observations by such remarks as have occurred to me on the particular subjects.

To the Rev. Robert Ferryman I am also obliged for much information on the subject of live-stock, and other matters therewith connected, and for tracing the progress and means used in their improvement, which he was well enabled to do from a personal intimacy with the county,
and

VI PRELIMINARY OBSERVATIONS, &c.

and with many active and respectable breeders and improvers of land and stock ; upon the whole, the information obtained, and here detailed, has been the result of my own observations, or communicated from the most capable and respectable authorities ; and I hope it may, in some degree, answer the expectation, and meet the approbation of the Board, of the spirited breeders and improvers of Leicestershire, and of others interested in the improvement of agriculture and live stock.

Some of the subjects are treated in a manner rather desultory and unconnected, for which I hope the Board and the public will accept of the following apology: the information was received, and the observations made, at different times, and committed to paper ; sometimes when an article was supposed finished, fresh matter came forward, which was thought too important to be omitted, and this repeated'y ; so, that to have made it appear regular and systematic, the writer might have had it to recast several times ; he has therefore been obliged, in some degree, to sacrifice regularity and system to matter of fact and general utility.

As the Board have not required any particular attention to botanical researches, the reference to Botany has been carried no farther than to notice such plants as are either advantageous or injurious to Agriculture, with a view of directing the attention of cultivators to the selection and improvement of the former, and to using every deviseable means for the extirpation of the latter, and much remains to be done in this way ; the cultivation of a greater number of the most valuable grasses and pasture plants, might increase both the quantity and nutritive quality of food for cattle ; and the destruction of pernicious weeds, would direct the whole force and fertility of the land to the nutrition of plants, valuable for the food

food of man and beast. But I am strongly of opinion that there is a considerable natural connection between the quality and state of the soil, and its spontaneous productions; thus heath and furze indicate coldness and sterility; rushes, sedges, and all aquatic plants, shew a want of under drainage; broom used to be reckoned by the old farmers a symptom of some depth and fertility of soil; goose-tansy denotes a want of surface drainage; cow-weed denotes a fertile soil; the upland burnet denotes a calcareous, and the meadow burnet a cool and moist soil; chadlock, and Goulan's hard tillage, and the couch grasses, the same, and bad management; the hare's foot trefoil grows only on dry sand; and I have never seen the melilot, chicory, and wild parsnip grow in plenty and luxuriance, but on good deep arable soils; and Dr. Withering says of the rib grass, (*Plantago lanceolata*) the total absence of this plant in marshy lands, is a certain criterion of the wretched quality thereof, in proportion as such soils are meliorated by draining, this plant will flourish and abound; thistles are also supposed to denote a good, and docks an inferior soil. Dr. Darwin relates, "A blind man went to purchase a farm, and riding over the pastures, the goodness of the land being much extolled by the seller, dismounted, and said to his servant, tie my horse to a thistle; the servant answered, here are none, but I can tie him to a dock; then I will not purchase, says he, and took his leave."

In the improvement of live stock, and particularly sheep, the breeders of this county are above my censure or praise; their efforts have been marked with the public approbation, which is sufficiently proved by the high prices given for, and the wide dispersion of their stock. In cultivation I should be inclined to remark, that sufficient attention does not seem paid to the growth of
wheat,

VIII PRELIMINARY OBSERVATIONS, &c.

wheat, and perhaps too much to that of barley, as the prices at market plainly shew: at Ashby, January 1808, wheat is 9s. 8d. per bushel; barley only 4s. 6d.; beans 8s. oats 4s. either of the latter high enough to prove them in demand; but would it not be a measure of private advantage and public utility, to substitute, in part, spring wheat for barley, after turnips; the grasses are known to succeed well, even better with spring wheat than with barley; and Mr. Rutherford, at Lord Moira's, has found he can grow two-thirds of the quantity, or 4 quarters of wheat against 6 of barley.

A cleaner cultivation of beans is also wanted; they should either be set by hand on a clean turf only, and well hoed; or drilled after a green crop, and followed by either wheat or barley, with seeds.

W. PITT.

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· AGRICULTURAL SURVEY
OF
LEICESTERSHIRE.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. I.—SITUATION AND EXTENT.

LEICESTERSHIRE is situated between $52^{\circ} 24'$ and 53° north latitude, and between $0^{\circ} 35'$ and $1^{\circ} 32'$ west longitude: it is an inland county, and bounded on the north by Derbyshire and Nottinghamshire; on the east by Lincolnshire and Rutlandshire; on the south by Northamptonshire, from which it is divided by the river Welland; and on the south-west and west by Warwickshire, from which it is divided by the ancient Roman road of Watling-street way, from near Atherstone to south of Lutterworth, about 20 miles: it also just touches upon Staffordshire in one point between Warwickshire and Derbyshire. Its greatest length from the south of Lutterworth to the north part of the vale of Belvoir is 45 miles, and the greatest breadth from Netherseal in the west, to Wymondham or Easton Magna in the east, is upwards of 40 miles; its mean diameter is about 30 miles; and it contains about 816 square miles, and 522,240 acres.

SECT. II.—DIVISIONS.

1. *Political denominations and relations.*—It is divided into 6 hundreds, containing 12 market towns, but some of the markets are but of small account: during the Roman government it was called Flavia Cæsariensis; in the Saxon heptarchy it belonged to the kingdom of Mercia; by William the Conqueror it was termed Ledecestershire, whence its present name: it is in the Midland circuit; it sends only 4 members to parliament, viz. 2 for Leicester and 2 for the county.

2. *Ecclesiastical connections and relations.*—It is in the province of Canterbury, and diocese of Lincoln, and is divided into 200 parishes; most of these in the open field state were rectorial, or entitled to tithes in kind, of corn and other landed produce; but upon enclosure, have very properly been exonerated from that mode of payment, by giving the rector a suitable allotment of land.

SECT. III.—CLIMATE.

THE climate is in general mild and temperate, as there are no mountains or bogs; the highest ground in the county is, some of the peaks in Charnwood Forest; these have the true mountain appearance of bare and barren rocks, projecting abruptly from the surface; and are composed, not of calcareous stone, or gritstone, but of the true primeval stone, a kind of bastard granite, carried far and wide for repairing roads: the elevation of these peaks is not more than 8 or 900 feet above the level of the sea, and consequently within a temperate region of the atmosphere; from thence the surface descends to the meadows

meadows on the margins of the different rivers and rivulets, at 100 or 200 feet elevation. The whole of the county may therefore, in point of climate, be pronounced mild and temperate.

No account that can be depended upon, came within my knowledge respecting the prevalent winds, or quantity of rain. In a county so much within land, nor within the particular operation of any external affecting cause, it may be presumed the winds are subject to no fixed laws; and respecting the rain, I believe the county to be not subject to excess of moisture; if a conjecture can be allowed on the subject, in comparison with other neighbouring counties, I should estimate the average annual fall of rain at about 30 inches.

SECT. IV.—SOIL.

THIS county has no surface soil that can properly be denominated clay or sand; it has no chalk; and its peat bogs having been long since drained, are now become meadow soil, being a compost of peat and sediment; the peat originally formed by aquatic vegetation, and the sediment brought down by streams and rain water from the upland.

The soil of the county may therefore be divided into three classes: 1. Clay loam, having a considerable degree of tenacity, and holding the rain as it falls, generally of a good depth, on which, and its friability and porous nature, its fertility in a great measure depends: this is generally unfit for turnips, but good for corn, and excellent for grass. 2. Sandy or gravelly loam, more loose, porous, and friable than the last, generally of a good depth, adapted to the

cultivation of turnips, and of every kind of grain; and excellent for pasture, natural or artificial. 3. The meadow soil, formed as above, particularly adapted to grass, and to grass only, both for hay and pasture.

Mr. Monk has expressed similar ideas: he says, the soil of the county varies from a light sandy or gravelly loam, to a stiff marly loam, including all the intermediate degrees possible between these extremes. The best soil is generally upon the hills, and the worst and coldest in the valleys. This I apprehend to be owing to the different states of drainage: the soil is generally deep, which makes it very proper for grass, deep soils not being very soon affected so as to burn up in dry weather.

The nature of the soil is very liable to vary much in short distances, respecting its strong or friable qualities: from Tamworth to Market Bosworth, I found light loam on gravel and sand, then strong loam on clay; past Orton-on-the-hill, soil thin, poor, harsh and cold, then a deeper but harsh clay loam; Welsborough, high sound land; Bosworth to Hinckley, various, generally sound and good; about Hinckley, a good deep mixed soil, excellent for corn as well as grass; to Lutterworth and Harborough, the soil generally strong enough to build mud walls, for which it is often used; yet in many places excellent for turnips and barley; about Leicester, a light or mixed loam, generally on gravel; poorer and thinner soil about Mountsorrel, and various to Charuwood Forest; about Ashby, different varieties, sandy and gravelly loam to clay; Ashby Would, lately enclosed, in their natural state, harsh cold clay loam, but becoming more mild and friable by drainage, cultivation and using lime plentifully.

About Odston the soil is a deep gray loam, sometimes moist and springy till drained; about Knighton it is a good deep gray loam; Scraptoft towards Bilsdon,
a deep

a deep moist gray loam; about Melton Mowbray, and to a great extent, rich sound pasture land abounds, but being a heavy loam upon clay, mixed with small fragments of calcareous stone, it is very wet in winter, and liable to tread with heavy stock: Melton towards Grantham, strong clay loam, road repaired with limestone; Waltham a sound gray loam; Branston towards the vale of Belvoir, a deep red or snuff coloured loam to some extent; Hathern, deep gray loam, roads heavy: this is the general characteristic of soil in the vale of Belvoir.

Dishley Farm consists generally of a mild friable loam, of a good depth, on a clay or marl bottom: the meadow soil similar to that of the other low lands of the county.

Charnwood Forest is generally a moist grayish loam, and in want of drainage and improvement; of which it is well worthy.

The general characteristic of the upland soil of Leicestershire is, therefore, a grayish or brownish friable loam, of greater or less depth, upon an under stratum of clay, marl, gravel, or rock, and may be divided as follows:

Strong clay loam 160,000 acres, one half only	Acres.
in occasional tillage	80,000
Milder friable loam in occasional tillage	160,000

Total occasionally in tillage 240,000

Strong clay loam in permanent grass	80,000
Natural meadows in permanent grass, upland pasture attached to farms and occupations, and near towns, parks, and pleasure grounds in permanent grass	160,000

Total permanent grass 240,000

<i>Cultivated lands</i>	-	480,000
<i>Waste lands</i> —Charnwood Forest, Rothley- Plain, and all other waste land in the county		20,000
Woodlands, plantations, roads, rivers, waters, towns, villages, buildings, gardens and yards		22,240
Total as before		522,240

The common fields remaining, are so small a proportion of the county as not to be worth naming separately here : it must be clear from the nature of the subject, that perfect accuracy is not to be expected. The above is the result of a calculation made after several rather particular examinations of the county.

The general face and appearance of the county is marked with interest and variety ; the hills and vales are connected by easy slopes, and with a few abrupt precipices, so that almost the whole surface is practicable and useful. The modern enclosed lordships are generally almost void of timber trees, and the farmers crowded with all the other inhabitants in villages : this, in former times, when property was more exposed to open depredations, might afford additional security ; but, in the modern state of society and police, as the old buildings wear out, it will be found convenient and proper to remove them to the centre of the occupation ; and if the occupier pays a reasonable per centage upon the expense, he will find his account in it, by the increased facility of communication with his premises, either for the purpose of inspection, carrying out manure, bringing home crops, or connection of domestic cattle with their pasture. In the ancient enclosures many good farm houses have been established, under the denomination of halls, granges, lodges, &c. and the fences abound with timber.

Respecting

Respecting a plan of the county, Prior's, as a general one, is sufficiently correct; but to colour it, so as to distinguish the different soils with any accuracy, and so as to give any correct idea, is not easy, if it be at all possible. The change of soil is by imperceptible shades, and the distinction is less than in most counties, and the intermixture more varied with less distinctive difference; there is nothing that approaches the sterility of sand, or the harshness of clay: the margins of the rivers, brooks, and rivulets are natural grass lands, and the upland is in some places gravelly, but generally loam more or less tenacious, the strongest of which is in the vale of Belvoir.

SECT. V.—MINERALS.

LEICESTERSHIRE is not particularly famous for minerals; it contains, however, mines of coal, limestone, lead, ironstone, slate and freestone.

There are coal mines at Cole Orton, and again at the Lount, and on Ashby Wolds; the two former are ancient works, and have been long in use; the latter has been lately established by the Earl of Moira, at a great expense, the coal being raised from a depth of near 200 yards, a three yard strata: it is of a good quality, and readily sold on the bank at 10s. per ton. The Ashby canal, which is close at hand, is ready to take off any quantity not wanted by the neighbourhood.

Bredon lime works are dug in an insulated rock of considerable extent, with a slight covering of earth; on the summit of which is built the parish church: the kilns are

in the form of an inverted segment of a cone, upon the perpetual kiln principle of laying in alternate layers of fuel and limestone at the top in constant succession, and drawing the burnt lime out at the bottom, through an arch constructed for that purpose. These lime-works being dug in the side of the hill are never incommoded by water, and the stone is conveyed down instead of up to the kilns. The Cloud Hill, a lime rock, in the same neighbourhood, is in a similar situation; they are both the property of the Earl of Stamford; the lime is sold at about 10s. per ton: this lime has been said to have peculiar qualities, and to prevent vegetation, if left too freely on the ground about where an heap of it has lain; the farmers, however, find it an excellent stimulating manure, especially on strong soils, but do not care to use above 4 tons per acre—SEE MANURES. Dr. Darwin says it contains 2 parts magnesian earth, and 3 calcareous, and attributes its peculiar properties to the former.

The strata of limestone at Barrow-upon-Soar, is dug from beneath the surface of the earth, being generally covered with 3 or 4 yards of spoil, on which account its price is enhanced: it was sold, 1807, at 2s. 6d. per quarter, 3 quarters weighing a ton; it is in good repute as manure, and particularly famous for water-works, for which it is fetched far and wide.

Besides these, limestone of a good quality, is dug and burnt upon Earl Ferrer's estate of Stanton Harold; and in the fissures of the limestone is found a good and rich lead ore, which is here smelted into metal.

Ironstone is found in great plenty upon Ashby Wolds, the property of the Earl of Moira. His lordship has erected an iron foundery at a great expense, by the side of the Ashby canal, where the ore has been smelted, and

cast into pigs, as well as utensils for various purposes. The ironstone lays at from 5 to 8 yards from the surface, a three yard measure, but mixed with two-thirds of a rubbishy blue bind, or clay marl. I understand the coal is too valuable here to afford to make iron profitably, and the foundry at present, (Oct. 1807) stands still, but it is meant to make further trials. This tract of land (Ashby Wolds) of some thousand acres, has been lately allotted, enclosed and cultivated; but the mines are reserved to Lord Moira, to whom the manor belongs: it is supposed to be rich in coal and iron ore, of which a small part has only been yet explored.

SLATE—Large quantities are raised at Swithland (pronounced commonly Swedeland) to the east of Charnwood Forest; it is rather a heavy thick slate, but firm and durable, and a good deal used in covering buildings, and some of the thick blocks also for gravestones, and building purposes.

Freestone and clay for brick and tile are to be found in most parts of the county. On Lord Moira's premises of Donnington Park, is an excellent freestone, of a whitish cast and durable texture; from which his lordship has erected a very magnificent mansion, 1793.

Mr. Monk has said "Gypsum is found in great quantities in many parts of the country," but this I believe to be erroneous. Gypsum is found in great plenty north of Trent in Derbyshire, not far from the borders of this county.

In the fissures of the limestone at Barrow, are found many curious fossil petrefactions; also, in the neighbourhood of Hinckley, fossil shells in gravel are frequently found.

SECT. VI.---WATER.

THIS county is well watered by rivers, brooks and rivulets, but has no extensive natural lake; but there are several artificial ponds or pools of considerable size, particularly one at Groby, which, according to Throsby, contains 80 acres. There are others attached to gentlemen's seats, as fish-ponds, and also pools for the working of water-mills. The public spirit and enterprize of modern times, have also well supplied the county with artificial canals for navigation, and to some of them are attached reservoirs for affording them a supply of water.

The principal natural river is the Soar, as the Trent can hardly be said to belong to this county, though it touches upon it from Lord Moira's park for 5 or 6 miles north-easterly, dividing this county from Derbyshire. The Soar arises between Hinckley and Lutterworth, and passing by Leicester and Loughborough, falls into the Trent near Sawley in Derbyshire, after receiving the Wreke above Mount Sorrel, and passing near Dishley; it divides this county from Nottinghamshire, for upwards of 5 miles; it is made navigable for barges from its junction with the Trent to several miles above Leicester, a distance of 20 miles and upwards. The navigation is further projected to be continued by means of the Union canal to Harborough, and to the river Nen in Northamptonshire.—SEE CANALS.

The Swift arises in this county, and passing by Lutterworth, soon leaves it, and flows into Warwickshire.

The Avon only separates the south-west part of this county from Northamptonshire; as the Welland, which rises near Harborough, after passing by that town, separates the south-east part of this, from that county.

The

The Wreke rises in the eastern part of the county, and passing by Melton Mowbray, falls into the Soar above Mount Sorrel.

The Anker rises near the source of the Soar, and running north-west near the confines of this county and Warwickshire, falls into the Avon. Besides these rivers, there are a number of brooks and rivulets, on the margins of whose banks, and on those of the rivers, are often large breadths of meadow land, equal in fertility and luxuriance of growth to any in the kingdom.

The artificial rivers, made for the purposes of navigation, will be further treated on under the article Canals.

The principal artificial pieces of water in the county, besides the pool at Groby, are the reservoirs to the Grantham, the Loughborough, and the Ashby Canals; the first in the vale of Belvoir, the second on Charnwood Forest, and the third on Ashby Wolds. This latter occupies, when full, 36 acres, but is gradually drawn down through the summer and autumn to supply the canal; and when at the lowest, after Michaelmas, is reduced to a few acres; on the approach of winter it is soon refilled by rains or melted snow: these reservoirs were principally formed on land that had undergone no improvement.

SPRINGS—*Burton Lazars* has a spring famous for curing scorbutic and scrophulous complaints, and supposed to be peculiarly wholesome to cattle. In the murrains or contagious distempers of horned cattle that have affected this country, this place is said not only to have been exempt itself, but also to have afforded protection against the distemper to the cattle of infected parishes sent there. It was formerly much resorted to by infected poor people, and was in some repute with those of higher rank; some conveniences and accommodations were erected, but I understand this spring has latterly fallen into neglect and

disuse; though Throsby, in modern times says, "it will cure scorbutic complaints, king's evil, and leprosy."

At Nevil Holt, near Market Harborough, is also a cathartic water, which according to Berkenhout, is impregnated with a bitter purging salt, called calcareous Glaubers salt, or more properly magnesian Glaubers salt, or Epsom salt, composed of vitriolic acid and magnesia alba; its analysis being a considerable proportion of Epsom salt, some calcareous earth, selenites, fixed air, vitriolic acid, iron, and possibly a little alum.—*Short, Monro, Rutty.*

CHAP. II.

STATE OF PROPERTY.

SECT. I.—ESTATES, AND THEIR MANAGEMENT.

THE great estates, as those of the Duke of Rutland, the Earl of Moira, and others of that class, are managed by resident stewards, who live either in the mansion, or in a separate dwelling in the neighbourhood ; and this system becomes necessary for those whose high rank and connections in life require their attendance on public affairs ; and in the management and improvement of a few thousand acres of land, it will well answer the proprietors end, in all cases where such proprietor cannot, or does not chuse to attend to his own affairs, to engage the whole time of a man of business, ability, and active mind, to study systematically, and put in motion the various improvements to be made on such estate.

The recent improvements made on the Belvoir estate, the property of his grace the Duke of Rutland, as related to me by Mr. King, the present agent, have been very great ; they have been effected principally, 1, by enclosure, and a consequent change in agriculture ; 2, by improved roads, and the Grantham canal ; 3, by planting, and building improvements.

14 ESTATES, AND THEIR MANAGEMENT.

The enclosures comprehend the following parishes :

<i>Date.</i>	<i>Parish.</i>	<i>Extent.</i>
1766	Waltham - - - - -	2500 Acres
1769	Eaton - - - - -	1800
1770	Bottesford - - - - -	4450
1771	Sproxton - - - - -	2220
1771	Saltby - - - - -	2120
1790	Harby - - - - -	1800
1791	Hose, Barkstone and Plungar -	3514
1792	Redmill - - - - -	1700
	Knippton and Stonesby - - - -	3600
	Acres -	<hr/> 23,704 <hr/>

besides part of many other parishes. These enclosures were managed with great economy, by often uniting two parishes in one Act, and under one commission; those expenses have not exceeded 10s. per acre, nor the enclosure, £3 per acre, reckoning the same price for fence timber cut upon the estate, it could have been sold at. This is indeed great economy, and a credit to those concerned. I have in other counties, in more instances than one, been assured of solicitors and commissioners expenses, amounting to £3 per acre, and the inclosure £5 per acre more.

A large tract in the vale of Belvoir was, before the enclosure, an open chase, or forest stocked with deer; the remainder open common field in the three shift system, of fallow, wheat, beans. The deer often committed depredations on the crops, and were at some seasons obliged to be watched by night. Here the course of agriculture has since the enclosure been turned topsyturvy, the richest land in the vale, formerly tillage, has been laid to grass ;
and

and the poorer land up the hills, and the skirtings of the vale, formerly a sheep walk, have been brought into tillage. Any land is permitted for tillage, whose staple, in the opinion of a proper judge, is not worth more than a guinea per acre; but rich deep soil, exceeding that value, is compelled to lay at grass.

The rents have been advanced from about 6s. per acre in the open state, to 18s. per acre, enclosed; but the duke is a kind landlord, never oppresses, and seldom removes a tenant. The advanced rent has been in part produced by the enclosure, but in part certainly by a change of times and circumstances; the land has been much improved by laying the richest parts to grass, and by drainage &c.; the occupations are mostly small, few individuals rent above £100, in an estate of 21,000 per annum. A numerous and able bodied peasantry is here supported; no stockingers, or other manufacturers, and care taken that there shall be none; poor rents low, and rents well paid. Mr. King is aware, on behalf of the duke, that the occupiers are rather farmers of the old stamp; but observes they are gradually improving, and some of the rising generation, as they grow up, are for striking at new improvements. He believes the estate produces as much nett income as it might do in abler hands at greater rents, as much polish and change in building at great expense, would be wanted. Something of this kind, however, is intended, and even set a going, to be brought about by degrees.

The enclosure of this vale has not at all, I believe, hitherto lessened the number of its inhabitants, as the farms are small, and few changes of tenantry have taken place. The farmer and his family take a hand in the business, yet few can do without a male and female servant, and labourer, who may have a family; these with the necessary mechanics,

16 ESTATES, AND THEIR MANAGEMENT.

chanics, blacksmith, wheelwright, taylor, weaver, &c. form a considerable population in each village, I should suppose about 10 or 12 to every 100 acres. The farm-houses are at present very generally in the villages; but as these decay, (and they are fast verging to it) it will be natural to form the new erections in the midst of the occupations, where some barns are already built, and the farms will be consolidated upon principles of economy, and let to the more active and diligent farmer; for as the tendency of the country is to pasture and feeding, the rejected occupier and his family must emigrate into towns, or elsewhere, for employ.

The management of the Duke of Rutland's property has always been conducted in the most liberal and benevolent manner; yet I think the enclosing of a rich district, and converting it to grass, has a natural tendency to decrease the population of that district: less corn is certainly now raised in Belvoir, than in its open state. This is admitted by those who effected the enclosures, but who say on the contrary, that fewer horses are kept, and less oats and beans are consumed in the district.

The roads of the vale of Belvoir, in its open state, were in winter dreadful, and almost impassable, and are indeed at present, in wet seasons very indifferent, except in a few instances. This object is not over-looked by those, whose interest it is to improve them; some attempts have been made, and gravel has been brought many miles along the Grantham canal, and their improvement is intended to be brought about in time.

The Grantham canal is also a leading feature in the improvement of the vale of Belvoir: this canal is navigable for Trent barges from Nottingham to Grantham, and I am informed, it is practicable to continue it to the sea, at or near Boston; it passes almost the whole length of the vale

vale of Belvoir, and 9 or 10 miles over the Duke of Rutland's estate, who is a large proprietor; it thus furnishes coal, lime, and other heavy articles, almost upon the spot where wanted, in a country almost inaccessible by land-carriage in winter. I heard a neighbouring farmer say, he would not take £50 a year, for the convenience it afforded to him; it cost considerably above £100,000; it is yet involved in debt, and has never made a dividend, but is in the receipt of 5 or 6 per cent. per annum, upon its capital, and is expected to become a fair concern.

Plantations.—Along the south side of the vale of Belvoir, runs a declivity of some miles in length; this is planted, a great part lately with forest trees, well fenced in, and preserved at the expense of many thousand pounds; these plantations are very promising for timber, and at the same time make good fox-covers for rural amusement and exercise, and are a great ornament to the country.

The estates of the Earl of Moira have been improved by the late enclosure and improvement of Ashby Wolds, by the Ashby canal, by considerable plantations on the declivity between the upland and the vale of Trent, by the introduction of the drill husbandry, and the best modes of modern culture upon his estate: most of the other principal estates are improved by plantations, for ornament and shelter, which are generally kept neat and clean from weeds, and upon the whole, the estates and landed property of the county are under good management, and in a forward state of improvement.

SECT. II.—TENURES.

Tenures, in this county, are principally freehold, with some little copyhold; manor courts are pretty generally

held, even where the copyhold tenure is extinct, and their utility is experienced upon many occasions, as the settlement of boundaries, and preventing of litigations, appointment of constables, &c.; a very small proportion is church tenure, or held under life-leases, renewable between the parties, upon payment of a fine.

CHAP. III.

BUILDINGS.

SECT. I.—HOUSES OF PROPRIETORS.

THE county of Leicester contains a great number of magnificent and elegant seats of nobility and gentry: the following is a list of most of the principal, from Throsby, 1801; he was Town Clerk of Leicester, and well acquainted with the county: it is possible a name or two may have since been altered by death, or alienation, but I have not any easy means of correction.

1. Belvoir Castle, Duke of Rutland.
2. Staunton Harold, Earl Ferrers.
3. Stapleford, Earl of Harborough.
4. Kirkby hall, Lord Wentworth.
5. Castle Donnington, Earl of Moira.
6. Stanford hall, Sir Thomas Cave.
7. Wiston hall, Sir Charles Halford.
8. Carlton Ourlew, Sir John Palmer.
9. Bosworth hall, Sir Woltan Dixie.
10. Skeffington hall, Sir William Skeffington.
11. Swithland hall, Sir John Danvers.
12. Bardon Park, William Hood, Esq.
13. Beaumanor, William Herrick, Esq.
14. Braunston-hall, Clement Winstanley, Esq.
15. Danett's

15. Danett's hall, William Bentley, Esq.
16. Edmonthorpe hall, William Pochin, Esq.
17. Enderby hall, Charles Lorraine Smith, Esq.
18. Gerondon hall, ——— Phillips, Esq.
19. Rotheley temple, Thomas Babington, Esq.
20. Goppeshall, Lord Curzon.
21. Laund Abbey, John Simpson, Esq.
22. Gumley hall, Joseph Craddock, Esq.
23. Leesthorp, John Sheffield Brown, Esq.
24. Lindley hall, Robert Abney, Esq.
25. Loddington hall, Charles Morris, Esq.
26. Misterton hall, J. H. Franks, Esq.
27. Normanton hall, Holhed Smith, Esq.
28. Nousely hall, Charles Haslerigg, Esq.
29. Osbaston hall, Josias Cockshutt, Esq.
30. Prestwood hall, Charles James Pack, Esq.
31. Quenby hall, Shuckburgh Ashby, Esq.
32. Quorndon hall, Hugo Meynell, Esq. the modern
Nimrod.
33. Scraftoft hall, Mr. Wigley.
34. Stoughton hall, G. A. L. Keck, Esq.
35. Wanlip hall, Sir Charles Hudson, Bart.
36. Westcotes hall, Walter Ruding, Esq.
37. Odston hall, Richard Astley, Esq.

These seats, says Throsby, the dwellings of the rich and opulent, are the pride and ornament of the county. I have seen a great number of them, and they are generally kept up in a style of modern elegance, with pleasure grounds and plantations, hot and green houses: their situation comprehends every variety of extensive prospect, and rural retirement.

Belvoir castle is a most romantic situation, upon an ab-

rupt elevation of a kind of natural cliff, forming the termination of a peninsular hill, the basis of which is red grit-stone, but now covered with vegetable mould, and well turfed by nature and art, and varied into terraces of different elevation; the lower parts of the declivity, and some of the upper abundantly covered with forest trees to a great extent, and forming a woodland beneath the foundation of this ancient mansion, so extensive as to afford shelter to a most innumerable multitude of rooks. This magnificent mansion is, doubtless, situated upon the scite of a very ancient fortification; it has lately undergone a very thorough reparation and partial renovation, at the expense of £60,000 and upwards: it is so very ancient, that the steward informed me, the family records go back to its having been twice rebuilt, previous to the present time; a walk round the terrace gives a view of the whole vale of Belvoir, and the adjacent country as far as Lincoln, including 22 of the duke's manors, and £20,000 a year of the family property.

Donnington Park. The residence, is a magnificent and spacious stone mansion, newly erected by the present Earl of Moira, in an extensive park of excellent verdure, well stocked with sheep and deer, as well as with forest timber trees of every description and stage of growth, from the young sapling plants to a state of decay, great variety in the aspect, swelling hills and sheltered vales, and washed on one side by the Trent; some very large oak and elm verging to decay; the soil sound, well turfed, and somewhat light, with a loose rocky under stratum; the park contains 450 acres, with a large stock of both red and fallow deer; these two varieties, I understand, never intermix so as to cross the breed.

Staunton Harold, Earl Ferrers's, is a magnificent brick and stone mansion, of two principal stories, with cellars

22 FARM HOUSES, OFFICES, AND REPAIRS.

and attics, well wooded and watered, and turfed around : many other of the residences above enumerated, are magnificent and elegant, and generally kept in a style of elegance and neatness, as may be expected in a fertile and rich country, where such residences are generally occupied by the owners, and who reside therein for the whole, or the greatest part of the year.

SECT. II.—FARM HOUSES, OFFICES, AND REPAIRS.

THE farm houses of this county, like that of most others, comprehend every variety of construction, and state of repair : in that part of the county occupied by respectable breeders, or graziers, who are sometimes the owners of the occupation, or connected with the owner by relationship, good substantial houses of brick and tile, or of other permanent and durable materials, are to be found ; but in many of the villages, the farm houses are of inferior construction, timber and plaster walls, covered with thatch ; these as they decay, will be gradually removed to the midst of the occupations, and built with more substantial materials.

In general, the modern enclosed parishes have the worst farm houses, they being almost always cooped up in the villages ; in the more ancient enclosures, farm houses have been erected in the midst of the occupations, and built with better materials.

Dishley farm-house is of ancient construction, and has probably been built at different times, whence it wants regularity

gularity and compactness; it has however taken altogether a style of pastoral simplicity, united with neatness, and exhibits a specimen of that judgment and taste, which joins convenience with economy so far as it can be attained without regular design; the out buildings too seem to have been put up at separate times as wanted; the yards, and pavements are remarkable for a neat cleanliness, and the whole farm business, for being conducted with good order and system.

Mr. Astley's Farm house, which is distinct from Odston hall, is a substantial brick and tile square building, with two front parlours, kitchen, dairy, brewhouse, and other offices behind; barns, stables, hog-sties and yards, properly distributed backwards, but not modern built nor contrived together, but probably additions made, as the cultivation became more productive, and the stock increased.

The houses of the principal breeders are comfortable and substantial, and of course fitted up in a style, suitable to the taste and situation in life of the occupier; but many farm houses in the old enclosures are of very ancient construction, and though the farms are considerable and respectable, the buildings will afford but little instruction; to modern inquirers, cow-houses for tying up dairy-cows, are generally of the cheapest and simplest construction; and stall feeding being but little practised, I have not met with one modern built, well-contrived feeding shed; the cattle in those cases are generally tied to a range of posts, with a cratch and rack, or range of troughs before them, and a binn or space beyond the rack, for a person to deal them out hay, roots, or other food. I saw some at Mr. Astley's, and elsewhere of this sort, of ancient construction, but not one modern well contrived, new erection for stall feeding; those at Dishley may be comfortable for

24 FARM HOUSES, OFFICES, AND REPAIRS.

cattle, and domesticated as they are, convenient enough to the cow-keeper, or servant, but have no particular contrivance in their construction.

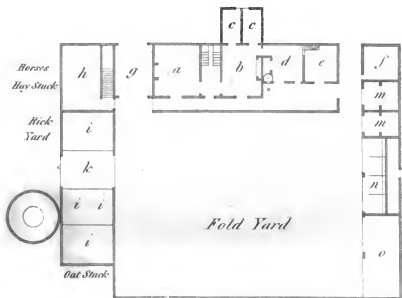
In the modern enclosures, most of the farm houses still remain in the villages, and are many of them covered with thatch; it is in vain there to look for any particular contrivance respecting either comfort or convenience; when these shall be worn out, and new ones erected upon the site of the occupation, no doubt but due attention will be paid to those particulars.

I hereunto annex a plan, and particulars of an entire new farmery, consisting of a farm house and offices, lately erected upon the estate of Lord Moira, on Ashby Wolds; his lordship having previously granted a lease for 21 years, at a rent accordingly; the building was done at the expense of the tenant, Johnson and Co., who by the contract were tied to lay out £1000 upon a plan approved by themselves and the landlord conjointly.

A cow-shed against an open yard, in which cattle are to be tied, or kept up, must be fenced off; otherwise loose cattle or swine will break in upon them, and injure each other; the different methods of fencing off are, some with brick-work fence high, having necessary doorways, and small piers carried up to support the roof; others with gates between the piers; and some to save the expense of gates, are fenced with paling, leaving a necessary gate or doorways only; or if a cow-shed be built in a separate fenced yard, or quadrangle by itself, no fencing to the shed will be necessary.

As Ashby Wolds abound in stone, which is easily got for draining or rough walls, Mr. Johnson has built stone rick stools, or staddles, with a projecting coping stone round the top, to keep out vermin, as rats or mice; these stools are much superior to wood, as they are far more durable,

Mr Johnson's Farmery at Ashby Mells.



Scale
10 20 30 40 50 60 Feet



a Parlour

b Kitchen

c Pantry's

d Brenhouse

e Dairy

f Wash house

g Gateway, Grunway over

h Stable

i i i Barn b

k Threshing Floor

l l Threshing Mill

m m Hog sties

n Cow Shed

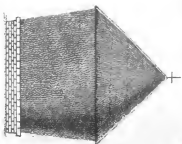
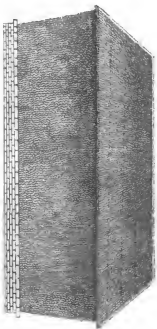
o Open Shed p Pump

*The Building cost by contract
1000 L & the Threshing Mill
100 L more*

*The Horses hay stack against
the Stable & the Oat stack say^{ed}
the Barn can be got in through
a pitch hole without team work*



Rich. Hudson's Saddlery & Livery Stable.



Scale



Ground Plan



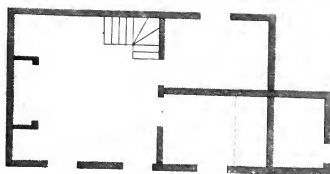
Ground Plan







Mr. Smith's Cottage



Scale in.

nable, and the corn may be laid as near the ground, upon straw, or faggot wood, as the damp will permit, without losing room : to prevent any damage from such damp, he has carried hollow drains under the staddles, to drain off moisture, and let in air, a precaution necessary on this clay soil, but less so on sandy soil or rock; the round stools are for wheat, the long ones for loose corn. I think these stools worthy of imitation, in all cases where the materials are near at hand.

SECT. III.—COTTAGES.

THIS county is not famous for convenient or comfortable cottages; they are generally in the villages, and often consist of mud walls and thatch; many brick houses are also covered with thatch; this I believe is warmer than tile or slate, unless the latter be underceiled with plaster; but for neatness, cleanliness, and security from fire, the latter is incomparably the best.

I give the following sketch of a cottage for a labourer, erected by Mr. Smith, attorney of Ashby upon the Wolds, where he has a considerable allotment of land, in addition to an old enclosed estate, and which he occupies with considerable judgment and spirit; with the addition of the new enclosed rectorial, or vicarial glebe, making in the whole, a good sized farm.

The walls of Mr. Smith's cottage on Ashby Wolds are brick, but the roof covered with thatch, to give a more rural appearance; the hog-sty is sunk, so as scarcely to appear in front, as the pig lies, and feeds beneath a part of the pantry, dotted off from whence he is fed; there are two sleeping rooms, as will appear by the plan. To give a picturesque appearance, Mr. Smith has finished the back side

side and ends with sham Gothic arches in the brick-work ; in this manner it would not cost less than £100, but in plain work, and the roof somewhat lower, the following estimate would erect it :

	£	s.	d.
15,000 bricks, lime, and laying, at 2	50	0	0
400 foot, chamber floors - 2 10	10	0	0
6 square of roofing, at 2l. -	12	0	0
Thatching -	3	0	0
Front door and frame, and 4 windows - - - -	5	0	0
Brick floor, stairs, inside doors, plaister, and hog-sty -	10	0	0
Total	£70	0	0

Mud walls are not uncommon, as observed above ; particularly in the villages, in the south and east of the county, where they are used not only as fence for yards, courts, gardens, and homesteads, but also for hovels, out-houses, and cottage tenements ; as fence walls, they are coped with clods, or thatch ; and in tempering, the mud is mixed with chopped straw, or stubble, to hold it together ; road scrapings are the best mud for walls ; they are often constructed by labourers, who can both build the walls and thatch the cottages, and when well executed are very durable.

Respecting repairs, there is no particular system. When a new tenant enters, or an alteration is made in the rent, the landlord generally puts the premises in good repair ; in other cases the landlord sometimes finds materials, and the tenant carriage and workmanship ; in occupations at old and easy rents, the tenant must do the repairs, or they must go undone, and this is pretty much the case with the cottages of this county.

Bridges.

Bridges.—This county having no large rivers, is not remarkable for bridges; the most considerable is Cavendish bridge, over the Trent, between this county and Derbyshire, on the road from Loughborough and Castle Donnington to Derby; it consists of 5 large and elevated arches, and is well known to travellers; those over the Soar, and the other small rivers have nothing peculiarly deserving notice: besides these, there are a number of canal bridges built in the usual form; and I passed over one of the Ashby canal rail-ways, by a bridge, in a place where it is pretty much sunk, and not far from the end of the rail-way tunnel.

PRICE OF BUILDING MATERIALS, AND LABOUR.

From Mr. Marshall, in 1786.

Price in 1807.

	s.	d.	s.	d.	£	s.	d.	£	s.	d.		
Bricks at the kiln, per 1000	16	0			1	5	0	to	1	7	0	
Laying Bricks, per 1000 -	4	0			0	6	0		0	7	6	
Bricklayer, per day	1	10			0	3	0		0	3	6	
Carpenter, per day	1	10	to	2	0	0	3	0		0	3	6
Building timber, per foot -	1	6			0	2	6					

The advance in lime in this period, is about as 2 to 3; that in bricks and timber rather more; and in labour quite as much: the general advance in the expense of building is therefore within the last 20 years, as two to three nearly, or in some places rather more.

CHAP. IV.

OCCUPATIONS.

SECT. I.—SIZE OF FARMS.

THE farms of Leicestershire are of various and almost all sizes. In the vale of Belvoir, and in many other parts of the county, as upon the Beaumanor estate, belonging to William Herrick, Esq. are a great many farms of from 80 to 100 acres; here the occupiers put their own hands to the plough. Mr. Monk says, “in the neighbourhood of Market Town are many farms much under 100 acres, occupied by tradesmen or manufacturers.”—A more general size of farms is from 100 to 200 acres, and from 200 to 500 acres are in the hands of many of the principal breeders and graziers, and in some instances occupied by the owner. On farms of this larger size the greatest improvements have been struck out, and established, which have often been adopted by the smaller farmers: some few occupations are larger still, and much more is kept in hand by some of the great land proprietors. Mr. Monk remarks as follows:

“*Manner in which the land is employed.*—The land is employed for the most part in pasture for sheep, dairies, feeding neat cattle, a considerable part for breeding horses, and a proportionable quantity in meadow for hay for winter use. The farms employed chiefly for dairies,
“ of

“ of which there are a great number, have always land in
 “ tillage to produce straw, turnips, &c. for the cows in
 “ winter. A farm of 200 acres may perhaps have about
 “ thirty or forty acres of various sorts of grain, &c. Those
 “ parishes where the land is of an inferior quality, have a
 “ greater proportion of arable ground than where the soil is
 “ richer.”

“ About Ashby de la Zouch, and Loughborough, three
 “ parts in four are in pasture. Near Melton Mowbray,
 “ there is very little arable, not more than one acre to thirty.
 “ Market Harborough has also very little arable. The
 “ pasture near Lutterworth is in proportion of eight to one.
 “ At Hinckley, five parts in six are in pasture.”

Under this head it may not be improper to detail particulars of some of the principal occupations, from minutes or memorandums made on the spot, in various and different tours through the county.

His Grace the Duke of Rutland (as I was informed at Belvoir Castle) has in hand 2000 acres of land and upwards of all descriptions, including pleasure grounds, plantations, meadow, arable, and lay land, where stock is taken into keeping.

When a piece of lay ground is broken up, oats are commonly sown, then turnips, common or Swedish, and, 3rd, oats again; for this article there is a great demand at the castle stables, where 50 horses or more are generally kept. No wheat was grown the season I was there, and little of that or barley at any time; the principal growth being oats for the horses.

At Donnington Park, the Earl of Moira has in hand, besides the park of 450 acres, a regular farm of about 370 acres, making in the whole about 820 acres: the park is well stocked with both red and fallow deer, and occasionally with sheep, and other live stock. The farm is thus occupied:

occupied: there are about 70 acres of permanent enclosed pasture, 35 acres of meadows on Trent, 100 acres of crops, wheat, barley, oats, and beans; no wheat fallow; 35 acres of green crops, cabbages, common and Swedish turnips, potatoes, and sometimes a few carrots; a few acres miscellaneous for vetches, buck wheat for the pheasants, farze for game covers, and the remainder clover; and seeds for mowing, or at pasture for a course of one or more years, and then ploughed up again.—SEE COURSES OF CROPS, AND OTHER ARTICLES.

Several Arabian horses are in his lordship's stable; one was shewn me which cost £200 in carriage over; 2 large Goza stallion asses, 14 hands high; 6 mules got by these asses; a few asses are kept for carrying turnips or other burdens; 8 plough horses are kept to make 4 plough teams, besides a team of waggon horses, and the necessary coach and saddle horses. About 100 to 120 Leicester ewes are annually put to the ram for breeding, and about 20 South Down; these latter for variety, comparison, or home consumption; 10 dairy cows are kept, 2 of which are Alderney, and the rest of the improved Durham breed; a very capital improved Durham bull, besides a dozen capital Durham and Ayrshire oxen feeding in Trent meadows. The hogs are of a breed highly improved, small boned with thin hides, and always keeping themselves in good condition. A German boar is kept here, thick and well made; the bacon and pork of his breed preferred for sweetness and good flavour. A pecary from South America has been 3 years kept amongst the hog breed, which he much resembles; he is a male animal, but perfectly chaste, and never attempts cohabitation with his companions, though analagous to himself in form and appearance, when not too much grown; he much resembles a small hog of the size for porking. An Egyptian ram is also kept here

for

for curiosity; he is a perfect contrast to every good quality expected in an English ram, both in wool and carcass; care is therefore taken to prevent any great increase of his breed. The business of this farm is principally done by labourers, (who board themselves); ploughing, as well as other work; the drill system is introduced and practised.—Further particulars are to be found under the different heads of this survey.

Dishley Farm, the occupation of the family of the Bakewell's for three generations, and now of Mr. Robert Honeybourne, nephew to the last Robert Bakewell, who died a bachelor, contains between 4 and 500 acres. This farm has long been remarked for the spirit and enterprise of its occupiers, in striking out new improvements, especially in live stock, and the resources for keeping them. I have several times seen it at intervals for the last ten years, from the year 1797 to 1807: Its situation is in the north part of Leicestershire, bordering on Nottinghamshire, about 2 miles from Loughborough, on the road to Derby. The nature of the upland soil is a mild friable loam, of a good depth, on a clay or marl bottom, in some parts inclining to wet, and requiring drainage. The meadow soil similar to that of the other low lands of the county: the enclosure and buildings ancient, with a church attached on the scite of the premises.

The peculiarities of this farm are, 1st, the attention that has been paid to live stock, and the efforts and exertions that have been made for improving it (see Live Stock), and which have been in a great measure successful; 2, in increasing the resources for supporting such stock, principally by irrigation and green crops; 3, in a correct and improved cultivation of the upland, so as to clean it from weeds and drainage wherever wanted.

The following memorandums were made on this farm in
1797:

1797 : 1. Concerning irrigation, &c. " A rivulet, which near this farm falls into the Soar, is applied to the purpose of irrigation ; and to prevent any interruption on that head, a mill worked by this rivulet was hired by the late Mr. Bakewell, by which he was enabled to apply the water either to working the mill, or watering the land at pleasure.

To effect his views in irrigating the land, a large water course or main carrier is cut from the point at which the rivulet enters the farm, and continued on a perfect level to the extent of about a mile and a quarter in length. All the land below the level of this carrier, to the extent of about 200 acres, is capable of being watered, and consequently may be mown either for hay or green food, without robbing the upland for manure, but on the contrary is a source of manure for the upland, by the dung made from its produce.

Near the house are several small plots, or parcels of pasture land, of less than an acre each, and well fenced round : these are for the convenience of keeping by themselves small lots of sheep or cattle. The other part of the farm is divided into closes, of which I believe none exceed 10 acres each ; the subdivision was done by the late Mr. Bakewell, I believe at his own expense ; the fences are generally of hawthorn, without timber trees, and are kept neat and in good order.

The cultivation of this farm has for a length of time been upon so correct a system, that it is now almost free from weeds : that most complained of is chickweed (*Alsine media*), which I was assured upon the spot gave more trouble there upon tillage land, than all other weeds put together. I observed, however, in a barley stubble, a considerable quantity of the knot grass, or bird's lakeweed (*Polygonum aviculare*), probably encouraged by the moist season,

season, upon a cool bottom insufficiently drained. There were also a few thistles in hedges.

Considerable plantations of willow are raised upon this farm by the occupier, for gates, hurdles, rails, sheep cotes, and other uses. The sort is, I believe, the white willow (*salix alba*.) It is a quick and straight grower, and soon becomes large enough for a rail or gate bar. A plantation of these is continued along-side the water-carrier before-mentioned for a great part of its length; besides which, there are several willow plantations near the house, which have a pleasing effect. I think this a practice worthy imitation, as it proves a substitute for oak, which may thus be reserved for more important uses, and furnishes a constant and plentiful supply of wood to the farmer for many purposes, with little expense, trouble, or waste of land.

One practice entirely peculiar to this farm, is that of drawing heifers of 3 or 4 years old at the cart or plough, in lieu of oxen or horses. They are easily trained and managed, and a considerable number, from 12 to 20, constantly ready for use; they are tied in a shed, and supplied with mown grass or other green food in summer, or with straw and turnips, or cabbages, or hay in winter. I was informed that 3 of them will work a plough or cart, and they are very docile and tractable. They may be worked 9 hours a day, viz. from 6 in the morning till 12 at noon; then baiting two hours, they go out again till five in the evening.

The water-carrier before-named is sufficiently large for navigating a small boat, and has been used for that purpose; and as it goes along the lower end of several of the arable closes, is often used for conveying turrips to the home sheds; for which purpose nothing more is necessary than throwing them loose into the carrier, when they are taken

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home

home by the stream, ready washed, and discharged into a reservoir, from whence the water may be drawn at pleasure. This reservoir, which is boarded round, is also used for a sheep wash, with a convenient place for the sheep to ascend after washing.

In consequence of the breadth of water meadow, large quantities of hay are raised; and the resources for maintaining stock are further increased by the cultivation of green crops of vetches, turnips, both common and Swedish, coleseed, cabbage, borecole, carrots and potatoes. Light carts are employed to convey these articles where wanted, either by horses or heifers. Carrots I understand to be the most casual and expensive crop, but so highly valued, that they are continued to be raised for the stallions and other horses. They are preserved in various ways through the winter; some by burying in earth in the manner of potatoes, not laying them in too bulky a heap; others within the building.

The following green crops were up on Dishley Farm in the autumn of 1797, and of each sort several acres:

1. Common turnips hoed and cleaned in the usual way.
2. Coleseed, highly valued for use, the beginning of winter.
3. Swedish turnip, crop equal in bulk to the common turnip, and much more valuable upon several accounts: they bid defiance to frost; the tops are equally nutritive and acceptable to stock with the roots; and they preserve their nutritive qualities through the spring months, when turnips run away and become oozy, and of little value. I was then assured, that in any stage of growth, sheep prefer them to the common turnip.
4. Cabbages, planted in rows, and horse and hand hoed in the usual way: these they begin to plant early in the spring, and to use early in autumn.

5. Bore-

5. Borecole, 3 or 4 acres, and very good, having been planted early: this was rather an experiment than an established plant, not having been tried before but on a small scale. It is expected to stand severe weather better than coleseed, and to be equally nutritive.

6. Potatoes, several acres, plough-planted in rows, well cleaned, and a great crop. These are meant for stock occasionally; or, if the price at market makes the selling of them an object, they will be sold, and the stock supplied from other resources.

7. Carrots. Of this plant they had no less than 9 acres, and the crop good. They have some time ago begun to get them for use, and are now getting (Oct. 16.) They are given to horses and other stock,—tops and roots together when fresh, but when stored the tops are cut off, and thrown fresh to stock. Nothing is known here of making them into hay. Many of the roots I observed to be from 2 to 3 inches diameter.

From these resources, united with a large stock of hay, a very large live stock can be well supported through the winter; and to increase summer resources, winter vetches are sown in considerable quantity. Cooke's drill was then in use at Dishley, but not generally.

In 1801, I again visited Dishley soon after harvest, and was informed, that about 120 acres of the farm were kept in tillage; of which, about one-third was green crops and vetches, one-third corn crops, and one-third clover and rye grass of the first and second year: the remainder of the farm being permanent grass land.

The growth of hay of that year I estimated at more than 200 tons. Barley and oats considerable; wheat less in proportion, it being more suitable to the occupier's system to grow oats and barley than wheat; pease in small proportion; vetches, a few generally saved for seed.

The Swedish turnip in great repute: coleseed instantly sown upon the early oat stubble, even before the crop is harvested; the oats being reaped, bound, and set up in shocks, 4 or 5 butts in one row, and the intermediate butts immediately ploughed and sown. This stubble cole reserved till spring, then eaten by ewes and lambs, and succeeded by some other green crop.

Cooke's drill was then more in use than before, being constantly used for barley, sometimes for wheat, and occasionally for vetches; and the hoes and scarifiers also used in barley previous to sowing the seeds, which are afterwards light harrowed. They had also scarified a piece of vetches, to destroy weeds and hoe the crop. Mr. Honeybourne's opinion of the drill system then was, that it requires particular attention, and a clean cultivation (yet not more attention than may be given by a steady servant or labourer); that it was rather gaining ground; but that in the present state of farming and cultivation, it is in vain to expect its general adoption.

In the autumn of 1807, I again paid a visit to Dishley farm, and saw the cultivation and stock. There were about 40 acres of green crops, including vetches. The Swedish turnip sown to the middle of July, as the land is made ready, beginning early in June: the common turnip sown after that time; about 20 acres of the former to 10 of the latter. Several acres of cabbages grown, begun to be set in April, and continue to the end of June: some potatoes and coleseed, but no carrots; the growth of the Swedish turnip making them less necessary, and the soil not being very suitable: less irrigation of land than formerly, the mill being kept at work, and part of the water diverted to some other purpose. Three or 4 capital black stallions kept; and 10 or 12 strong black brood mares, for breeding and doing the carriage and farming work. About 25 calving

COWS

cows kept; and 100 to 150 ewes put to the ram. The pig stock, fine boned and well formed, thick and plump, with a fine thin hide. These are the principal features of the farm, of which more particulars will be given under the different heads.

The opinion at Dishley, which was always that of Mr. Bakewell, and which corresponds with my own, is that of an alternate system of grass and tillage, mutually supporting each other; the one by keep or food for cattle, the other by manure, assisted by a due proportion of meadow and permanent pasture. To afford certain resources for a proper live stock is a much more profitable and superior mode of farming to that of excessive ploughing, or of grass land alone; and that whether considered as referring to landlord, tenant, or the public at large; though it must be admitted, this farm, from the peculiarity of its pursuits, has but a small quantity of tillage in proportion to its extent. In the common field system too much ploughing prevailed, and the tillage was ill conducted, with little encouragement to any individual for improving, and no probability of improving the general system. In a considerable proportion of the enclosures tillage is neglected, the land being easier managed, and supposed to pay more nett profit in feeding stock. But here the public are injured; by no means the greatest possible quantity of human food is produced; and it is certain that both landlord and tenant may be benefited by introducing a moderate system of tillage, upon a due proportion of the land. More human labour might be advantageously employed; more human food produced; more rent afforded, and more profit obtained, by due exertion upon a well regulated course of cropping. It is, I believe, well understood, or may be easily proved, that good land in tillage, in due proportion, will maintain a much larger human population, than it will as grass alone.

I therefore think that grazing farms, merely so, are jobbing speculations, and ought not to be encouraged.

Mr. Astley's occupation at Odstone, about 3 miles north of Market Bosworth, consists of about 500 acres, the property of his brother, Dugdale Astley, Esq. of Everley, in Wiltshire. The upland soil generally a strong gray loam, with about 100 acres of water meadows mown for hay, to support a large and highly improved stock. This meadowland has been drained by Elkington, and is irrigated upon the catch water system. I went over these meadows with Mr. Astley, in the month of July, when the morning had commenced; they appeared to me to mow from one ton and a half to two tons of hay per acre. In 1797, Washington, a bull, and lady Washington, his dam, both from Rollwright, were in his possession, but somewhat superannuated. A dairy is kept of about 30 milking cows, of the long horn breed; they are the largest and best, taken all together, I have ever seen, except those of Mr. Princep, of Croxall. The cow calves are reared, and part of the bull calves; the best bred for bulls, the rest for oxen; but most of the team work is done by strong black horses. Some brood mares are kept of the blood kind, and colts bred of the highest blood. A large flock of sheep kept; when I was there the farm had upon it between 7 and 800, of which more than 100 were rams of different ages: about 200 ewes put to the ram. The sheep are of very prime quality, though Mr. Astley, I believe, never belonged to the Ram Society.

The hogs are of a breed highly improved, being fine boned and mellow, with thin hides, and coming to a large weight. Mr. Astley is generally reckoned to stand at the head of the breeders, in the superiority of his swine.—SEE **LIVE STOCK.**

The green crops grown are turnips, both common and Swedish;

Swedish; cabbages and potatoes, followed by barley and seeds. A good deal of corn is grown; sometimes 50 acres of barley, and 50 of oats and wheat, and 50 of green crops, including vetches (I believe seldom or never any wheat fallow). This leaves 250 acres of upland grass or clover, and 100 of meadow.—SEE COURSE OF CROPS.

I consider this farm as very productive, the crops being generally very full and good. Mr. Astley has removed the ant-hills from his pastures, and levelled the surface of the meadow land, by removing uncouth ill-formed banks, taking care to reserve the surface soil in its proper place.

I visited Mr. Stone's farm of Knighton, about 2 miles south-east of Leicester. The soil, a good deep gray loam, fit for turnips. His sheep stock very capital. Mr. Stone grows coleseed, cabbages, the common turnips, and Swedish turnips in the same field, for the support of his capital store sheep stock, which he disposes of in the following manner: 1st. The summer, or fallow cole, is brought into use; it is generally mown, and carried to turf land for the rams and ram lambs; the store ewes and ewe lambs being seldom indulged with any, and the wether stock being elsewhere. The turnips and cabbages are next brought into use; and lastly, the Swedish turnips. This plant answers the best for supplying the vacancy of sheep-keep, which has often occurred in the month of April, as it preserves its juices completely, and sheep will even eat it from choice after they are put to grass and clover; at which time they reject the common turnip. It is by much the best plant that has been yet introduced for spring use, and should be sown rather earlier than the common turnip; the best time is the month of June. With the assistance of this plant, and stubble coleseed, sown immediately after harvest, Mr. Stone seldom experienced any scarcity at that time.

Colcseed for a main crop is sown the same time with turnips ; and this, Mr. Stone thinks should always be eaten off the beginning of winter, as it receives much injury from severe frost : but stubble coleseed may be kept till spring, as it will then grow and produce excellent food for ewes and lambs; or other stock, its growth being of a different nature to the running to seed of that early sown.

Mr. Stone's course of crops on his store sheep farm is, 1, green crops as above upon fallow ; 2, barley with seeds ; 3 and 4, sheep pasture ; 5, barley at one ploughing of the 2 year old turf, and stubble coleseed sown immediately after harvest and first ploughing the land ; and then green crops, and round again as before. In this system there is no wheat, which, however, may be sown instead of barley in the fifth year of the course. But Mr. Stone observes, that the stubble would be later and less kind for coleseed, upon a wheat than upon a barley stubble. Spring wheat may also be sown instead of barley after the green crop, in the second year of the course ; and this I believe to be an increasing practice.

The first year's clover, which is the third year of the course, is grazed with rams and ram lambs, on which they do better than on grass, particularly in the former part of the summer ; but continuing them on clover through the whole summer and autumn, Mr. Stone thinks has a tendency to give them the yellows or jaundice ; he therefore prefers taking them from clover, and putting them to grass in August.

As a proof how thick on the ground, the new Leicester sheep will bear to be laid, Mr. Stone shewed me 5 theaves, which were either barren, or had lost their lambs, and which had been wholly summered on half an acre of grass in an orchard, containing also some fruit trees ; these 5 sheep

sheep were in excellent condition, and full of flesh. This stocking is 10 sheep to the acre for the summer months.

Sheep-cotes and pens are erected on various parts of this farm, in a situation for serving two or three pieces of land each. The rams here, and with all the principal breeders, are cloathed after shearing time with a yard of flannel each, which with care will last three or four years.

Mr. Watkinson, of Woodhouse, occupies his own estate, about 3 miles south of Loughborough, which is in a high state of cultivation, and about three-fourths kept at grass, and one-fourth tillage. He disapproves of two white corn crops in succession, and therefore sows upon breaking up turf, part wheat and part oats. The wheat sometimes followed by pease and coleseed on the pea stubble, then turnips, barley, and sceds; the oats, by turnip, barley, and seeds. In this case wheat is omitted. A varied system is more common in this county than a regular one.—SEE COURSE OF CROPS.

Mr. Watkinson has Cooke's drill, which he often uses, but not generally; had not used it for wheat, because his wheat is sown on lay ground, but sees no objection to using it for fallow wheat, as he believes a saving of seed might be made: he uses it considerably for barley, but sometimes sows part of a piece broad cast against the drill, and can scarcely perceive a difference; but says, if he may venture an opinion, it would be in favour of the drill, as he believes the straw stronger and the grain better bodied; but hoeing the barley is omitted, because it interferes with the grass seeds, and after the drill the grass seeds are lightly harrowed in. Mr. Watkinson observes, that for the drill to be advantageously used, the land must be highly prepared; hence it appears that a principal advantage of the drill system would be, to force a more perfect preparatory tillage, from which, probably, greater advantage would be derived,

derived, than from the mechanical mode of laying in the seed.

This gentleman is in the first rank of Leicestershire breeders; his sheep are closely bred from the Dishley stock, and have great merit in laying on a great weight of mutton upon small dimensions, with the least possible bone or offal. He also shewed me a grass fed long horn cow, which I estimated at 13 or 14 score the quarter, and believe to be worth to the butcher £35. He had shewn an ox at the Smithfield show, of the long horn breed, but the prize was given against him in favour of an Hereford ox of superior weight; but the Leicestershire breeders remonstrate against individual weight being made the criterion of merit, without taking into due consideration the proportion of offal, and quantity of food required by the animal, in which particulars they assert the long horn breed excel all others.

The Swedish turnip is here in great repute, and cabbages cultivated on a considerable scale, as well as stubble cole and the common turnip. Potatoes also in such plenty as to be sold from 14 to 16d. the bushel. Oct. 1807, viewed a sheep farm of Mr. Stone, of Barrow, some distance from his house, a mile or more from Barrow, on the Nottingham road: soil a strong gray loam, rather harsh, with an under stratum of limestone; about 200 acres.

A whole field of drum head cabbages, and the crop good; another field, part summer cole, part cabbages, small pens of hurdles, with 10 ram lambs in each, eating of the cole seed, about 8 perch of which will last ten lambs a week: this piece meant to be eaten off early enough to sow autumn wheat.

Stubble cole sown after oats, a whole piece about the middle of August, and very promising, the shed oats growing amongst it. Mr. Stone informed me, he has
grown

grown on this piece of land, 11 quarters of oats per acre, the piece through.

Common turnips grown, but Swedish in a double proportion, or at least two acres for one, being reckoned to suit better on this rather strong soil; Swedish turnips generally washed and cut for the rams, or other prime sheep in the spring, by Hanford's machine; sheep-pens, or cotes, erected where four fields meet, about 20 feet square; also in the middle of the fields, pens of hurdles, four hurdles long, and one wide, open at the ends, for the sheep to walk into shelter, or to shade themselves, and covered with hurdles and straw; these in one year old clover sheep pasture.

Ewe stock very capital, 160 put to the ram, about 90 to an aged ram of his own, and the rest to a Disley shear hog; the ewes placed in a stock, to prevent fatiguing the ram, and teasers employed to single them out when in use.
SEE LIVE STOCK.

Wheat stubble hacked up, or mown for litter; beans set by hand on this farm, and followed by wheat, then a green crop, then barley and seeds.—SEE COURSE OF CROPS.

The Swedish turnips when cut, are generally given to the prime sheep in troughs. Mr. Stone had nine capital rams, making off for the butcher, having so many above his number. By a rule of the Ram Society, no individual is to let out more than 30 rams in one season.

Mr. Stone has two teams of five oxen each, but means to drop draught oxen, and make them off to the butcher; he burns lime stone on this farm for manure, and other uses; the price two shillings and sixpence per quarter, five quarters weighing about a ton. The sheep here, are of the first class, and the business respecting them, conducted in the first style of management.

SECT. II.—FARMERS.

THE land occupiers of this county have not been wanting in the spirit of enterprize. The great exertions of Bakewell, in the improvement of every species of live stock, are well known : in this he has been ably seconded by a great number of respectable characters, who have also endeavoured to adapt their land to an improved stock, by drainage and every other species of improvement, suited to produce an healthy and plentiful pasture, and great winter resources, for supporting a large and valuable stock. This spirit of emulation has spread universally amongst the smaller farmers, and amongst all ranks of land occupiers, and so far excited them, that there is now no land occupier in the county, but would be ashamed of shabby or inferior stock, and if he could not produce something of an improved, or superior order. Many of the smaller farmers upon the Belvoir, the Beaumanor, and many other estates, occasionally put their own hand to the plough, or assist in the other manual operations of farming ; yet there are few of them that do not keep one or more male and female servants. The great merit of the Leicestershire farmers, has mostly shewn itself in the improvement of live stock, and particularly sheep ; and next to this in the improvement of grass land. In the dairy parts of the county, the business is well conducted, and a great deal of cheese produced. In the cultivation of green crops, as turnips, and particularly Swedish, they much excel ; but in the cultivation of grain and pulse, I reckon them not superior to the neighbouring counties, though many public spirited cultivators have tried the effects of hoeing, hand setting, and the drill system ; but no farmer here, to my knowledge, has risen to any degree of opulence, without excelling in

live stock, and keeping a large proportion of his best land at pasture: these are, therefore, naturally the first objects to an intelligent Leicestershire farmer.

As an illustration of the alteration of circumstances with times, I shall beg leave to make the following short extract from the British Plutarch: "Hugh Latimer was born at Thurcaston in Leicestershire, about the year 1475; his father was a reputable yeoman, who had no land of his own, but rented a farm, on which, in those frugal times he maintained a large family, six daughters, and a son."

"In one of his Lent sermons, preached before Edward VI. after exclaiming against the enclosure of common fields, and other oppressions practised at that time by the nobility and gentry, he takes notice of the moderation of the landlords, a few years before, and of the ease and plenty enjoyed by the tenants. As a proof of which he adds, that upon a farm of four pounds a year at the utmost, his father tilled as much ground as employed half a dozen men; that he had it stocked with an hundred sheep, and thirty cows; that he found the king a man and a horse, himself remembering to have buckled on his father's harness, when he went to Blackheath; that he gave his daughters five pounds a piece at marriage; that he lived hospitably among his neighbours, and was not backward in his alms to the poor."

Thurcaston remained an open field till 1798.—SEE ENCLOSURES.

SECT. III.—RENTS.

THE rent of farms in Leicestershire may be reckoned from one pound to two pounds per acre, average 30 shillings; the rent of water meadow land, and good grass, and

and other land near towns, three pounds to five pounds per acre, and in some few instances higher ; but this subject can only be stated in a general way, as minute inquiries of this kind are looked upon with suspicion, and considered as an over curious prying into private affairs. The credit given for rents is three months in hand ; generally rents due Lady day, paid about Midsummer ; and due Michaelmas, paid about Christmas ; but with some variations. The real annual value of the county, including the residencies and occupations of gentlemen, and rents of houses in towns, must, I think, be between £760,000, and £800,000 per annum. Mr. Throsby observes, *land near Leicester let at five shillings per acre in 1700, is now five pounds per acre.*

SECT IV.—TITHES.

THE ancient enclosed land is generally titheable ; the modern enclosures are as generally exonerated by an allotment of land, which is commonly about one-seventh part of the whole, in lieu of tithes : but I was informed by Mr. Graham, a resident farmer, that upon the enclosure of Queensborough, one-sixth of the land was given up in lieu of great tithes, which in the open field state had been collected in kind ; besides which, a small allotment to the glebe in addition, and an annual money payment was given in lieu of vicarial tithes ; the few remaining common fields are titheable. In the enclosures in the vale of Belvoir, the tithes are all exonerated, either by an allotment of land, or by a corn rent ; in the latter case, commissioners name, or specify how many acres of corn ought to be cultivated, and the average price of wheat for 14 years past, and thence deduce a specific sum, to be in lieu of tithes annually : at the
end

end of 14 years, this is liable at the instance of the parties to be renewed by a reference in the same way; the old enclosed part, of every new enclosed township, has also been exonerated; no instance but of one rectory in that part of the county.

Mr. Watkinson of Woodhouse, stated to me, that he formerly used to pay for tithes to his neighbour, Mr. Herriek, who is lay impropriator, eight shillings per acre, for tithe of wheat, and six shillings for all other grain and pulse; but since grain has taken a higher price, it has been left, by consent of the parties, to a third person to value the tithe. The tithe owner is a gentleman of great liberality, and the parties are on the most friendly terms.

In the case of tithes belonging to the rector, he naturally looks for the full value, being generally in limited circumstances: this frequently brings on altercation and misunderstanding with the cultivators, whom I have often heard speak of tithes in the most bitter terms, and it often occasions land to be thrown to grass; and there can be no doubt but the quantity of grain grown, is lessened by the land being titheable. It is therefore very clear and certain, that an equivalent in land, given to the tithe owner, is in all cases, for the benefit of all parties interested, and an object of public utility.

Experience has already proved, that no evil, or inconvenience can arise, from giving land to the rector in lieu of tithes. In the vale of Belvoir, the experiment has been made over and over again, to the mutual satisfaction of all persons interested. The rectory of Bottesford, upon the enclosure, being commuted for in land, is now worth upwards of £900 per annum, in landed estate. I understand that the tithes of many of the old enclosed parishes, as well as of some of the few remaining common fields of this county, are in the hands of lay impropriators.

The vicarial tithes are in many cases compounded for by a modus, or rent-charge in money, which is generally under real value, having been fixed in former times, and not since altered. Where tithe is collected in kind, Mr. Marshall states the custom of this district to be, to take every tenth sheaf, where the titheman sets them up; but only every eleventh, if set up by the occupier. The payment of tithes in kind, has certainly a proportionably similar effect upon cultivation, to what paying rents in kind would have, which latter would no doubt check and stagnate all improvement; and by analogy, the former has that tendency so far as it goes: it is therefore much to be wished, that the business was settled by a commutation, both in regard to the public interest, as for the accommodation of the parties interested.

SECT. V.—POORS' RATES.

THE poors' rates in this county are very various: in many of the parishes merely agricultural, as in the vale of Belvoir, and in many other farming and grazing districts, that have kept clear of manufactures, the poors' rates continue low, not exceeding at the present, from one shilling and sixpence to two shillings in the pound, upon the real annual value of property.

But in the manufacturing districts, and in some distressing seasons, the poors' rates have risen to an enormous height. In 1801, as I have been informed, the poors' rates of Barrow on Soar, containing about 3000 acres, amounted to £2000, which is thirteen shillings and four pence per acre. The parish contains, besides farmers and their dependants, a good many lime men, and stocking weavers.

Also

Also Mr. Watkinson of Woodhouse stated to me, that poors' rates in his parish had risen within his memory, from £100 to £1200 per annum, at which amount they were in 1801, upon about 1200 acres, being full 20 shillings per acre: a good many stockingers reside in the parish.

According to returns made to Parliament, August 1805, and as published in the Monthly Magazine, November 1805, the poors' rates of Leicestershire were in 1776, £26,360

And in 1803, advanced to - £107,368

being in the latter state, upwards of five shillings in the pound, upon an estimated rental, but probably not much more than three shillings in the pound, upon the real annual value of all property.

In this lapse of time, from 1776 to 1803, being 27 years, the value of money, (i. e.) the proportion it bears to the value of the leading necessities of life, has been depreciated one half; the real advance of poors' rates in that time is, therefore, that they have once doubled, instead of quadrupled; the further apparent advance being ideal only.

Also it may be observed, that of the money collected by the poors' rate, one-fifth is applied to other purposes, as county rates, or constables, and churchwarden levies, overseers' expenses and law suits being included; so that deducting that proportion from the above, the real expense of the poor is now about £86,000 per annum.

	L.	S.	D.
Poors' rate Melton Mowbray, in 1776	287	12	4
Ditto, average of three years, 1783, to 85	455	11	8

LEICESTER.]

2

Poors'

Poors' rates of the whole kingdom, in 1776	1,679,585
Ditto, of the whole kingdom, 1803	5,161,813

The poors' rate of Leicestershire has therefore increased rather more than the same, upon the average of the kingdom ; thus,

Increased in Leicestershire, from

1776 to 1803 - - As 10 to 40 $\frac{1}{2}$

Ditto in the whole kingdom, ditto As 10 to 31, nearly.

Hence it should seem, that the stocking trade in this county has sustained a greater depression, than the average of the manufactures of the kingdom ; and that the wages of those therein employed, have not advanced in proportion to the advance in the price of provisions, which is doubtless one principal cause of the advance in poors' rates.—SEE POOR, CHAP. XVI.

The sum actually annually expended upon the poor, being as above, £86,000, is about thirteen shillings and four pence per head, upon the whole population ; and as Mr. Rose's pamphlet has stated 12 in a hundred to be paupers, it is rather more than five pounds ten shillings per head per annum, upon those receiving it.

SECT. VI.—LEASES.

MR. AINSWORTH says, leases are often granted, and they have a tendency to promote improvement. A farmer cannot exercise his skill and industry, with that spirit which is necessary in all important undertakings, without some probable security for the enjoyment of the fruits of his labour ; death may perhaps take from him a landlord on whom he could depend, and whose word was equal to his

his bond, and the estate devolve to another, who regardless of the engagements of his predecessor, may give him notice to quit, or may raise his rent. He may be so unhappy as to differ with him in politics; or his dog may unfortunately kill a hare, which has been bred on the farm; the consequences of such slight offences are well known. It has been justly observed, that the cultivation of small or moderate sized farms by their owners, is generally productive of the best and most improved modes of agriculture, as the farmer finds himself doubly encouraged by interest, and the security of enjoying the fruits of his labour.

Mr. Marshall states, that although a very laudable and commendable confidence between landlord and tenant often exists, and the security from which may be considered as good as a lease, yet off-estates are sometimes sold by the most respectable families, in which case the expense of improvements by the tenant may be in a great measure sunk, and he gives an instance.—MIDLAND COUNTIES, VOL. II.

In occupations from year to year, an agreement has sometimes been entered into, for the tenant to be reimbursed, in case of quitting, for such real improvements as he shall make, or for what remains of such improvements: and although some difficulty may arise in ascertaining what ought to be paid in such a case, yet as there are men in every district, who are adequate to the task, it is better for a landlord to give that security, than to let a farm go unimproved; and for a tenant to accept it, than to run the risk of sinking, or losing the money so expended.

The clauses of such leases as are granted, vary according to the nature of the soil, and custom of the country; they are often longer in form than necessary, and contain much useless matter. Some modern ones have been simplified and brought into less compass. But according to my observation, there exists amongst gentlemen, residing in the

midst of their tenants, a repugnance to grant leases, under the idea of keeping the occupiers more dependant upon the will and pleasure of their superior. For Mr. Monk's observations on leases,—SEE CHAP. XVII, OBSTACLES TO IMPROVEMENT.

SECT. VII.—EXPENSE AND PROFIT.

RESPECTING the expense and profit of farming, as applied to individual cases, it can only be estimated, as a person would be suspected of more curiosity than decorum, who should press any questions tending to discover individual profits, and would receive (or could expect) none other than evasive answers. Theoretic calculations are easily made, but would not always be realized in practice, and the success of all extraordinary exertions must depend upon a combination of causes: with respect to the industrious and careful, small and moderate sized farmers of this county, it may be said they have the necessaries of life about them, and such part of its comforts as are adapted to their station; and if they rear a family, and place them decently in the world, little more is expected. Respecting those upon a larger scale, they are often men of property, and by employing large capitals in the breeding and grazing speculations, conducted with judgment, attention, and perseverance, considerable profits are sometimes, and ought to be, gained. It has however been justly remarked, that the profits from land, however judiciously managed, though sure are slow, and not to be compared in rapidity of accumulation to those, from successful commercial speculations.

Mr. Marshall complains much of the precarious nature of farming, and thinks the profits more uncertain than even those

those of the merchant, who depends upon wind and weather, as he can insure against losses ; “ while the farmer is left at the will of the elements, without any surety ;” and gives instances of stock starving, and crops failing from drought. However, I am of opinion, and always was, that from attention and experience, the profits of farming are but little affected by the seasons ; if the weather be wholly favourable, universal plenty must insure low prices ; if excessive drought, or excessive rains occur, they are public calamities, and their consequences must be born by the public ; and if such be general, high prices are sure to ensue. A difficult or critical season opens a field for activity and exertion, and those whose management has been, and is above par, will generally be gainers by it. In 24 years experience, upon a considerable scale, I always made the most money in difficult seasons. I state these circumstances, as a stimulus to exertion and improvement. Land the most improved, is the least injured in inclement seasons.

CHAP. V.

IMPLEMENTS.

SECT. I.—PLOUGHS.

THE plough, principally in common use all over the county, is the common plough of the midland counties, very generally used upon all sandy, gravelly, or loamy soils, of moderate dryness or friability, and not being too moist or tenacious. This plough was formerly very generally guided by hand, constructed to make only one furrow, and drawn by three or four horses, according to the state or hardness of the soil, with a man to hold the plough, and a boy to drive. Somewhat more than 30 years ago, wheels were first applied to the fore end of the beam, and it was found that by pitching the plough a little deeper, and setting the wheels so as to prevent its drawing in too deep, the wheels were a sufficient guide, and the plough required no one to hold it, except in places of difficulty; one person attending was therefore sufficient to drive on the team, turn the plough in and out at the ends, or guide it in particularly hard or soft places.

Soon after another furrow was added, by splicing an additional beam to the off side of the former, one somewhat lengthened, with foot share and shelboard; the same number of wheels, viz. one on each side, guiding the two fur-

TOWS:



Principles of the Wrought.



Scale 5 Inch to a Foot

Line of Draught

Unploughed Land

Old Furrow

New Furrow



Horizontal Section.

rows: this plough is now very generally used, drawn by four or five horses, and can in all common cases be managed by one man, without an assistant; but in difficult work, a driver is sometimes allowed.

RULES OF CONSTRUCTION.

A the foot or sheat, *b* the beam, *c* the coulter, *d* the share with its side plate, *e* the heel, *ff* the inside of the shelboard, *g* the master tail; to prevent confusion, the other tail is not represented, this being meant only as the land side of the plough. The height from the bottom of the furrow to the line of draught is 18 inches; before wheels were applied it was only 16; the height from the bottom of the furrow to the under side the tail three feet.

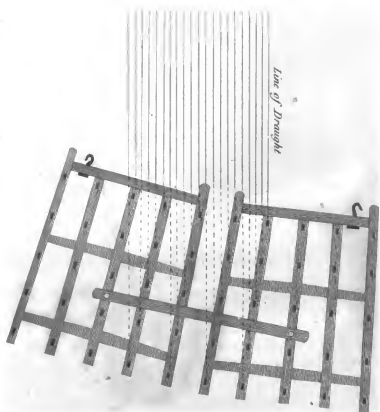
HORIZONTAL SECTION.

P the point of the share, *p q* the land side bottom 33 inches long, *q s* the plough bottom to clear the furrow, nine inches wide, the bottom of the plough cuts the soil with an angle of about 15 or 16 degrees: *p r* the upper part of the shelboard, or mould board, which presses down the furrow; this extends from the point of the share about three feet six inches, and spreads to near eighteen inches wide; it acts against the furrow with an angle of about 24, which will clear itself in most soils, in a state tolerably dry. The off wheel, which is the highest, goes along the near side of the last made furrow, thus gauging the width of the new furrow to about nine inches; it is made moveable to different widths, the near wheel goes upon the unploughed land, and gauges the depth; it is moveable higher or lower, by a rack; *p t* the wing of the share undermines

determines the furrow, and makes it easily turned over. The two furrow plough is upon the same principle, but being longer in the main beam, has a secondary beam, foot share, and mould board, fastened to the former, and made moveable by screws, so as to vary the depth and breadth of the furrow.

These ploughs are neat compact tools, and if their force of draught be not increased by the wheels, so as to require more power to keep in motion than some others, they must be equal to any ploughs now in use. In moist tenacious soils, by lengthening the mould board and bottom of the plough, it may be applied to the soil with a more acute angle, and would then clear itself the better. The mould board is very frequently of cast iron, otherwise of wood plated; the bottom and land side of the plough is also plated with iron.

The ploughs upon Lord Moira's farm are not very distinct, or different from this, except that there are no wheels; they are held by hand, and drawn by two horses abreast, guided by reins, in the Norfolk and Northumberland manner. I saw them ploughing bean ground a second time for wheat, in which they went on well. I remarked to the farm bailiff, that I thought the ploughing of a strong ley, would be too much for them; but he says they can do it, and more horses than two are seldom or never used. I must remark, the horses are well corned, and well kept, besides being naturally stout, stiff, strong horses; the ploughs too, are light neat tools, not overloading the team; and I suppose there is some advantage in drawing two abreast, they being nearer their work; or from their similarity to the common wheel plough above described, I do not see why they should go easier, or be drawn with less force, unless it be supposed that wheels increase the friction, or impede the motion of a plough:



Scale $\frac{1}{4}$ Inch to a Foot.

Woolen.

it must however be confessed, that these wheel ploughs are seldom drawn by less than 3 horses, and the 2 furrow ploughs have commonly 4 or 5.

The old fashioned throck plough is not quite given up; I saw a few instances of it at work on strongish soils, drawn by four horses; it is a clumsy heavy looking tool, and the horses seemed as much loaded with it on a similar soil, as Lord Moira's team of two horses only.

On Ashby Wolds, Mr. Smith's wheel ploughs are drawn by a horse to lead, and 2 oxen; 2 teams were thus at work; or a horse to lead and 4 oxen draw a 2 furrow plough. The ploughs are the wheel ploughs first described, and these are by far the most common ploughs of the county.

Trench and draining ploughs of various constructions are made in the county, in a very ingenious manner, by Messrs. Hanford and Co. of Hathern, near Loughborough: their advertisement is annexed in the appendix, and I would willingly have procured or made drawings of the implements of their construction, but they had not near a full assortment at home, and unless such drawings are well executed they do not convey a clear idea.

2. *Harrows*.—The harrows in general have nothing singular in their construction: I give a drawing of a pair of Lord Moira's, principally for the simplicity of their coupling, which is a wooden sloat fixed on two pins passing through the middle bull; this not being closely confined, but left to have some play, gives the harrows full liberty to work about, and yet effectually keeps them asunder, and prevents their entangling or falling foul of each other; and it may be taken off, or put on, almost in a moment. It will appear by the drawing, that if the traces be so managed as to give the line of draught there marked, the tines or teeth will each cut different ground, going 20 in a yard, or
about

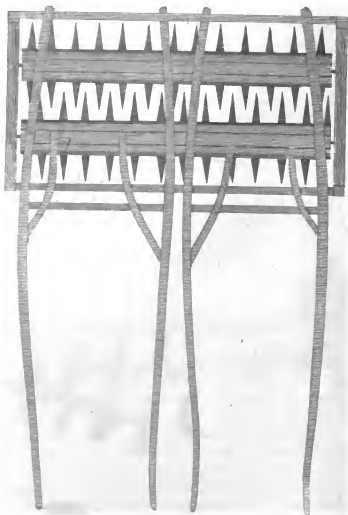
about one inch and three-quarters asunder. I do not know that any particular form of the harrow can give much greater advantage.

Mr. Hanford has constructed harrows of the diagonal form, merely to command this advantage, of each tine or tooth cutting different ground; but I am not sure whether the above form with the off trace let out, so as to give the line of draught its proper direction, is not equal to any form of the harrow that can be devised.

Respecting the price of ploughs, harrows, and implements of husbandry, it is difficult, and indeed the makers refuse to fix a specific price, as that depends upon the strength of timber, and more particularly the weight of iron-work used in the construction: the price of iron-work is, for heavy and plain work 4d. common work 5d. and screw-work 6d. per lb.; but the intricate work often applied to machinery is worth 1s. per lb. Dishley, and many of the principal farms, keep a smith as an hired servant, constantly the year about.

3. *Rollers*.—The common simple roller with a pair of shafts is still the most common. Of stone rollers I saw none used in agriculture, though they are not uncommon in many places. Of rollers divided in the middle I saw none here, though they are elsewhere used, and said to turn much better than all of a piece, and with less disturbance to the surface of loose lands when turned short again. Heavy iron rollers are used by gentlemen and the larger farmers to roll grass land and meadows, and are a very capital tool to level and consolidate such land, and enable the scythe at hay harvest to lay close to the surface. The most remarkable roller I saw in the county is the double spiked roller at Lord Moira's; it consists of two rollers, each about 9 inches diameter, armed with 8 rows of spikes, fixed

The double spiked Roller



fixed in a frame, and mounted upon wheels about three feet and a half high, with double shafts fixed on the frame; there is also an upright post windlass, and power of pullies fixed upon the frame, to raise or lower the rollers at pleasure, without stopping the machine. It is put in motion by 4 horses drawing double. The spikes of the rollers work in and mutually cleanse each other. It was made at Newark; is a new invention, and cost 30 guineas: a few others have been made. Mr. Rutherford, his lordship's farming bailiff, reports it to have a great and good effect upon strong tenacious soils, and upon such, thinks it a very useful implement.

4. *Drill machines.*—Cooke's drill has been long in the hands of the principal farmers, and is now pretty much used at Lord Moira's, Dishley, and by some other principal farmers, but not by any means generally. Upon Lord Moira's farm, oats are sown broad cast; barley and wheat generally by Cooke's drill; it lays in 5 rows at a time, at 12 inches, or 6 rows at 10 inches; a set of scarifiers are fitted to it, and occasionally used as hoes, drawn by a horse to cut up weeds and loosen the soil between the rows of barley or wheat. At Dishley, Cooke's drill is often used to lay in all kinds of grain, and even vetches. Mr. Honeybourn observes, that it requires some attention, but not more than a steady servant or labourer ought to bestow: he assures me he has succeeded well in laying in carrot seed by this machine, though thought so difficult a seed to sow; for thus sowing, the carrot seed must be well rubbed, and then intimately mixed with sifted sawdust, after which the ladles of Cooke's drill will deliver it equally regular with other seed. This machine succeeds best where the land is somewhat loose and friable, and not too tenacious or stiff.

Bailey's Northumberland drill is used at Lord Moira's,
for

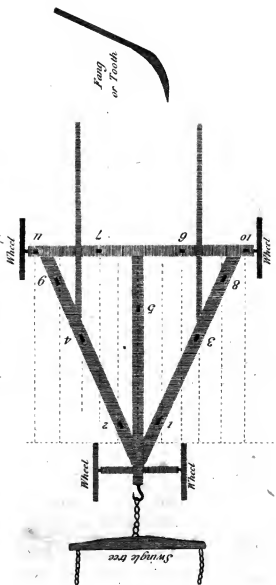
for turnips, and I believe also for beans; it lays in turnip seed one or two rows at a time, in ridges rolled flat, at about 2 feet 3 inches distant, and beans at the same distance; they are either crop afterwards hoed, or moulded up with a horse-hoe plough, and finished cleaning by hand; the horse-hoe greatly facilitating the business, and to give room for which, the rows cannot well be less than three-quarters of a yard asunder. This mode of sowing turnips has been practised at Dishley and elsewhere, but is now given up for broad cast; the latter producing most plants, as well as being done with more dispatch.

Hanford and Co. of Hathern, also make drill boxes, or hoppers, which may be fastened or attached to any common plough, and will sow grain or pulse along the furrow, to be ploughed in: one of these has been used at Dishley, attached to a two-furrow plough, to sow beans along every other furrow;—the price 1l. 11s. 6d. each.

5. *Horse-hoes*.—Of these several sorts are in use to mould up beans, potatoes, turnips, cabbages, and any other plants set or sown at a proper distance; for which purpose a light plough turning a furrow either way is commonly used. Hanford and Co. make several sorts for this purpose, as well as for cutting up weeds: two or three sorts used at Lord Moira's are made by Mac Dougale and Hill, Oxford-street, London, either for cutting weeds or moulding up; they have one wheel only under the beam;—price about 2 guineas each. One of them is very curious; it consists of two small light ploughs, the one turning a furrow to the right, and the other to the left; these when put close together make a common moulding plough; or when divided six or eight inches asunder, which they are constructed for, they bestride the row of plants, and divide

Improved Schaffer.

Leicester & Rutland.



vide or cast down part of the ridge either way, having broad or wide iron notches at the fore end of the beam to enable the horse to draw it when going between the rows. These modes of shortening labour are peculiarly useful to this county, where I understand all kinds of farm labour to be high, and work people scarce, owing to the facility of employment in the stocking trade and other manufactures.

Very ingenious transplanting tools are made by Hanford and Co. for transplanting turnips, other plants, or small shrubs; they clip round the plant in the horse shoe form, are trod down round it, and by means of its handle, which acts as a lever, similar to the docking iron, the plant is taken up with the earth adhering, and replanted without separating from the earth around.

SECT. 11.—SCHUFFLERS.

SCHUFFLERS, or cultivators, are pretty much used upon turnip and other fallows, as being found more expeditious than the plough, and more effectual than the harrow, in working the soil, fetching out couch grass roots, and destroying weeds.

The following is an improved and approved form used in this county, with 7, 9, or 11 teeth:

The teeth or fangs are hammered out broad at the point into the spoon form; the handles or tails are used to lift up the implement to let out the rubbish when collected. The teeth marked 10, 11, are sometimes omitted; they are all moveable up and down at pleasure, and fastened by screws at any height. Those marked 3, 4, 8, 9 are changeable, that is, have two holes apiece, which they can be shifted into

into according to the state of the rubbish, or the soil; the neck or part of the tooth below the wood has the corners taken off to prevent entangling the rubbish, or cutting the couch roots, which latter is not desirable, as it makes one weed into two or more. The machine is mounted on 4 wheels, and drawn by 4 or 5 horses, or a good team of oxen. Every other form of the implement has given way to this, which is supposed the best construction it is capable of.

6. *Thrashing machines* are fairly introduced in the county. I examined one upon a new farm of Lord Moira's, upon Ashby Wolds, built by one of his lordship's tenants, Johnson, at the expense of £100; it has been lately erected; the constructor, Noon, of Burton-upon-Trent; a 2 horse power called, but better worked by 3 horses. Mr. Johnson had tried it upon oats, of which it thrashed 130 bushels in 9 or 10 hours, doing the work clean and well. Seventy bushels of wheat, or 80 of barley, are expected to be done in the same length of time. Mr. Johnson calculates, that with a 1 horse cart, and 3 horses at the mill, with 4 men and 3 boys employed, he can get in from the rick yard, thrash, clean, sack up, and make fit for market the above-mentioned quantity of grain in any fine day. The thrashing mill takes out most of the chaff: it is finished cleaning in a winnowing machine. A good oat straw rick had been made from 2 days thrashing.

Several other thrashing mills have also been lately erected in the county. Mr. Stone, of Knighton, has one, a 2 horse power, at 70 guineas; Mr. Williamson, of Gaddesby, a 4 horse power, at £100; and I was informed there are 2 or 3 more in the neighbourhood of Leicester.

To attempt a minute description of a thrashing-mill would, I think, be useless, as it would be difficult to convey a clear idea of the machine, and there are now plenty of

of constructors in most counties: the main wheel, to which the horse power is applied, is fixed out of doors, near one side of the barn, and put in motion by the horses going round and round, and may easily be covered by a round roof; this communicates with the machinery within doors, which is adapted to being put up in any common barn, not occupying much room. The corn is delivered half winnowed on the former thrashing floor, and finished cleaning generally by a winnowing machine.

Portable thrashing machines, to move from barn to barn, have been talked of, and I believe constructed, but I heard of none in this county.

7. *Winnowing machines*.—Of these there are several makers in and connected with the county; Rea, near Burton-upon-Trent, makes good ones at from £7 to £8 each; and J. Cornforth advertizes as follows; his machines are highly improved and approved, and he has made more I suppose than any other man in England:—

Improved Winnowing Machines. J. Cornforth, Chapel Ash, Staffordshire; respectfully addresses himself to the farmers in Leicestershire, and thanks them for their preference, who have purchased his improved Winnowing Machines, and informs those gentlemen who yet want the article, that they may be supplied as usual from Chapel Ash, or by applying to Cort, Cort, and Barston, Leicester, where machines are kept, and orders received.—N. B. Any gentleman doubting the utility of these machines, may make trial gratis.

8. *Chaff-cutters, bruisers, &c.*—Of the former, those worked by hand are a common tool in the hands of every considerable farmer; and various improvements have been introduced, particularly that of making the machine feed itself, the giving the knives or cutters a circular motion, and turned by a windlass; but the best machine I have seen

for chaff-cutting is that by Burrell, of Thetford, Norfolk; one horse works it; it will cut in full work near 1 bushel per minute from hay or straw, or easily 4 or 500 bushels per day;—the price £24 at Thetford.

Similar to the hand machine for chaff-cutting is the turnip-cutter, by Hanford and Co.; it is in the hands of most of the principal farmers, for slicing turnips, and particularly Swedish turnips, which it does very expeditiously and effectually, the cutting-knife being used by the right hand, and the turnips brought forward along the trough to the knife by the other.

Of bruisers, different kinds have been constructed; one has been to pass the grain or pulse to be bruised between 2 stone rollers, another upon the malt mill principle, and a third upon that of the corn mill coarsely, or not too closely set; but even the principle or theory of the utility of bruising grain or pulse for animals has been disputed, and objected to by Dr. Darwin, in the *Phytologia*, who thinks that when given whole it is more nutritious, and the reason assigned is, from the saliva being better mixed with the masticated food, and in greater quantity.

9. *Wagons, tumbrills, carts, &c.*—The wagons in the hands of the Leicestershire farmers, are either with 6 inch wheels or narrow wheels; the former with double shafts, drawn double by 6 horses, with 4 or 5 tons loading; the latter drawn single by 4 or 5 horses, with generally about 3 tons loading; they are both occasionally used in harvest, and fitted with gearing for that purpose. The tumbrills are also with 6 inch or narrow wheels, and drawn by 2 or 3 horses, except in the few cases where 3 or 4 oxen are used. Tumbrills are chiefly used for drawing dung, muck, gravel, stones, and heavy articles. Dishley and most of the principal farms are furnished with light carts for drawing turnips, cabbages, vetches, &c.; these require less

less strength, and are often drawn by 1 horse, or by 2 oxen or heifers; these latter have been much used at Dishley for this purpose.

One horse covered carts are also very often met on the roads, being much used for marketing by gentlemen's families, farmers, butchers, gardeners, &c.; they are a very convenient vehicle in the present state of the roads, keeping the traveller and the goods dry and wholesome.

Gigs, or one-horse chairs, are also pretty much used, not only by gentlemen and travellers, but by the better sort of farmers and tradesmen, and are a neat and convenient travelling vehicle on level and good roads; and as a horse will thus easily convey 2 persons, it is much more easy to the horse, and convenient to the travellers, than the ancient mode of riding double, two on the same horse.

10. *Rakes, hoes, spades, shovels, &c.*—Some ingenious large rakes for hay and corn, with elastic steel spring teeth, that will spring back to their proper situation from any reasonable force or violence, are made by Hanford and Co.—See their advertisement.

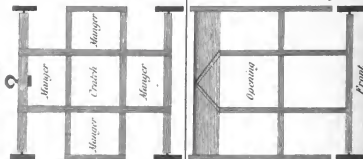
Respecting spades and shovels, they have nothing singular or different to other countries, but are made of different forms for different purposes; but few are made in the county, being principally manufactured at Birmingham, in the neighbourhood of Stourbridge, and in Staffordshire, where large manufactories of these utensils are carried on.

11. *Borers, Draining tools, weighing engines, &c.*—The borer used to tap springs is a large auger, which had long been in use in mining countries—See the article DRAINING. The other draining tools are, a knife to cut through tough turf, spades and shovels of different breadths, particularly a narrow and deep one for the bottom spit, scoops and scrapers, scuttles or baskets for moving stone, and a large hammer for breaking stone into smaller pieces.

Respecting weighing engines, except those attached to the public turnpike roads, I neither saw nor heard of any; the breeder, the grazier, and the butcher generally depend upon their senses of sight and feeling for the weight and value of heavy stock; and sheep, or stock of the lighter kind can be weighed in scales, or by the steelyard; but practice and habit enable those interested to judge near enough for the purposes of buying and selling.

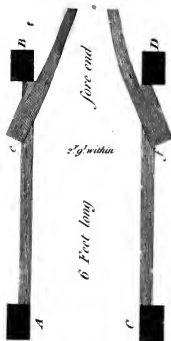
12. *Miscellaneous articles.*—Among the other implements, the *trolley* mounted upon 4 low wheels, is to be found about many gentlemen's and farm houses; it consists of a square frame resembling the bed of a waggon, 10 or 12 feet long and about 4 feet wide, boarded on the bottom, and fitted with thripples or partial harvest gearing; the wheels being low, the platform is only raised between 2 and 3 feet from the ground, which makes it very convenient for loading and unloading. It is used for carrying faggots, poles, posts and rails, implements about the farm, stubble, or any odd fragment of hay or harvest, and from its low construction, is much more handy for such purposes than a waggon, cart, or tumbrill.

Colt's trough, at Dishley, where a great many colts have been bred and reared; I sketched the annexed colt's trough: it consists of a cratch in the centre for hay, and 4 mangers projecting from it for corn, the whole roofed with boards, and mounted on 4 wheels; the provender is all kept dry, and the master colt cannot readily drive away another without losing his corn, as the one so driven can immediately drop in at the vacant place, and as they are obliged to stand somewhat distant they cannot readily kick or bite each other. It can easily be moved about by a man in the field with a lever, and is drawn from field to field by horses; a bolster is attached to the fore axle-tree to enable it to turn about. The scale it is drawn by is a quarter



Colt-Trough.

A Brake for shoeing (Q. R. M.).



fore end

6 Feet long

2 ft. within



Stock for Swine

quarter of an inch to a foot. The hay may either be put through the upper part of the openings above the mangers into the cratch, or a trap door may be left over the cratch through the roof for that purpose.

Brake for shoeing oxen or heifers, or for farriery.—This also I sketched at Dishley, where they have long used it for the above purposes; it consists simply of 4 posts fixed firmly in the ground, A B C D, with strong side rails; the animal being led in is confined by 4 broad strong straps going over the back, and under the belly; e f are 2 benches hollowed on the top for laying on the fore legs one at a time; the hind legs are held out when wanted one at a time by a long wooden lever. Mr. Honeybourn assures me, that a man and a boy will thus shoe the strongest ox, and that a horse for farriery is as easily managed.

Cross footed hurdle.—This may be deemed scarce worth naming, being simply a hurdle, which instead of being set in the ground is mortised and tenoned into 2 cross feet, of 3 or 4 feet long, lying on the ground, and therefore moved about merely by lifting it from place to place. It is in use at Dishley, and found very useful set before a gate, to prevent it from being forced by any strong animal.

Stock, for putting ewes to the ram, consists simply of 4 stakes, a b c d, driven into the ground; between which the head and neck of the ewe are fastened when in use, and tied with a rope or cord, to prevent her fatiguing the ram: this is practiced in the best flocks, and will enable a valuable ram to supply a greater number of ewes than he could otherwise do promiscuously.—See the article, SHEEP.

CHAP. VI.

ENCLOSING.

SECT. I.—CASES BY ACT OF PARLIAMENT.

A VERY large proportion of this county has been enclosed in modern times, and within the last 30 or 40 years, under the authority of different acts of parliament; very little of the county now remains unenclosed, except the wastes: I suppose the whole county does not contain more than 6 or 8 open fields, dispersed in different quarters, and that their whole extent does not exceed 10,000 acres of land.

The enclosures in the vale of Belvoir have been very considerable, but these belonging principally to the Duke of Rutland, have been noticed in chap. ii. under the article, **MANAGEMENT OF ESTATES**. In a Leicestershire enclosure, if the fences are well managed they soon grow up, and in 7 years every appearance of the common field is obliterated; and a stranger would form no idea of its having been so lately in the common field state, when it assumes the appearance of an enclosed country.

In the autumn of 1801, I examined the two new enclosures of Swithland and Thurcaston, but I think but little interesting agriculture is to be reported from hence; they
are

are both of the same age, and then seemed to have been 2 summers under cultivation since actually enclosed, though I believe the date of the acts of enclosure is 1798. Swithland lies to the east of Charnwood Forest; the village is the ancient residence of the D'Anvers family; its slate mines are well known there. There are ancient enclosures about the village; the common field lately enclosed is 353 acres, of light meagre soil, apparently worn out by perpetual tillage, and the attempt at renovating it had not then succeeded, the turnips being poor and foul, and the harvest stubble the same, and abounding in couch grass and weeds.

The 'Thurcaston' enclosure is of the same age, and of much greater extent; it consists of a deep light or gravelly loam, carrying good crops of turnips and barley, with the seeds promising, but weeds abounding as in Swithland, only in smaller quantities. These enclosures are formed with 2 rows of post and rail, each containing double rails, with a mound beneath the under rail, and quicksets planted between; the expense of enclosing in this manner, independent of act of parliament, commissioners, surveyors, &c. may be thus estimated, per perch of 8 yards:

	s.	d.
Six posts and 12 rails laid down, 6d each	-	9 0
Mortising, sharpening, and setting	-	1 6
Ditches and mounds on both sides	-	1 0
Quicksets and planting	-	1 0
Keeping clean and repairing post and rail	-	0 6
		<hr/>
		13 0
		<hr/>

If we suppose a square mile divided into 10 acre enclosures, it will contain 640 acres, and 18 miles, or 3960 perches in length of such fencing, at 13 s. - £2574.

This is upwards of 4l. per acre, besides the additional
 F 3 expense

expense of gates, &c. but as all enclosures are less uniform and more divided, I suppose the expense will be £5 per acre.

In Leicestershire enclosures well managed 7 or 8 years raise the quicksets to a fence, and the post and rail are taken away; also, in that time, the land well managed loses all traces of the common field, and becomes a regular enclosed country. The sort of quickset universally used and preferred is the white-thorn or haw-thorn—*Cratægus monogynia*.

As in this county stock is the principal object, and no farmer has risen to any degree of opulence, without excelling in that particular, a large proportion of the best soils are upon enclosure naturally laid and left to permanent pasture, so soon as a good turf can be formed, which will graze well; upon which principle the enclosure of common fields lessens the breadth, and perhaps the general produce of corn, though it tends to increase that of animal food, and of that produced from animals: hence it will follow, that the enclosure of waste lands should accompany that of common fields, as waste lands upon enclosure are generally obliged to be kept for many years in cultivation.

The enclosures in the vale of Belvoir have not lessened the population, but it is admitted by those who effected them, that less corn is grown than in its open state, but fewer horses are kept, and less oats consumed.

Queeniborough enclosure—I went over this enclosure with Mr. Grahame, who occupies 400 acres of it. The act of parliament for this enclosure passed in 1793.

It consists of 2 divisions of soil; 1. Strong clay loam, on a clay marl bottom; 2. The sand land, so called here, consisting of light soil on a sandy or loose gravelly bottom.

The enclosure was by 2 rows of post and double rail, with mounds and quicksets; no lambs to be kept for the

3 first

3 first years of the enclosure, but this not strictly adhered to. The land had for the greater part been, time immemorial, in the 3 shift tillage, 1 whcat, 2 beans, 3 fallow, with some variations on the sand land, and was pretty much exhausted; produce seldom more than 2 quarters per acre, of beans or any other crop: a considerable proportion of old pasture, and some patches of grass land, for mowing or tethering stock.

Mr. Grahame says, this land in its open state was very unprofitable to the occupier, though rented at from 10 to 12s. per acre; the great expense of cultivation, and collecting crops from patches of land dispersed over the whole lordship, the trespass from stock getting loose, and loss from disorders in sheep, particularly what he calls the water, which I understand to have been watery bellies (dropsy) was such, that he thinks the occupiers could not have gone on; the enclosure was 2050 acres. The principal and almost sole proprietors were, Mr. Loveden and Mr. Hungerford; the former was lord of the manor, and lay impropriator of great tithes, which were collected in kind.

The church living was a vicarage, depending upon small tithes and fees. Upon the enclosure the great tithes were exonerated by giving up one-sixth of the land; and the small or vicarial ones, by annexing a small glebe to the vicarage-house, in addition to an annual money payment, subject to variation with the price of corn; the exact particulars of which Mr. Grahame did not know. The enclosure at £5 per acre would cost £10,250, but this would not cover the expense of act of parliament, and charge of commissioners and surveyors: the expense of these latter I have no means of ascertaining.

The rent, according to Mr. Grahame, is now 23s. per acre upon the average, tithe free; the former average rent

having been 11s., advance 12s. per acre, or £1230 per annum. The enclosure has, therefore, been a good speculation to the proprietors, but Mr. Grahame believes the occupiers could not have paid their way, had it not been for the late extraordinary prices of corn and sheep: as the improvement is now coming round, he believes they will be able to go on.

The number of sheep kept in the common field system was, 10 flocks, of 210 each; these were folded on the fallow field, counting in the lambs in May, when the culling ewes with their lambs were sold off in couples, and the whole stock reduced by sale to the above number; these were under the care of 3 public shepherds, at £30 per annum each.

The poors' rate in this parish is now about 7s. per acre, making with the rent an average of 30s. per acre. The number of horses, horned cattle, and sheep now kept is not more than in the open state; the present stock of sheep at shearing time is about 1 per acre. The acres of the different sorts of grain are certainly not so much, but Mr. Grahame thinks the produce may be about the same from getting better crops; instead of 2 quarters per acre, from 3 to 4 are now obtained of beans, wheat, and other grain.

A much greater breadth of green food is now cultivated, which enables the farmer to fat his sheep instead of selling them as stores. Mr. Grahame is in the habit of sending sheep to Smithfield, constantly, 10 or 15 at a time, as they become ready, or as he chooses to part with them; they are taken up by regular drovers, and the money brought down at 18d. per head.

The village contains a number of tenements occupied by stocking weavers, who frequently take apprentices, and thus make parishioners (this accounts for the high poors' rates;)

rates;) when trade fails they apply to the parish officers, and if the farmers give them employment they make very indifferent labourers.

The alteration of circumstances by this enclosure may be stated thus: no more corn grown, nor greater number of cattle kept, nor increased produce of butter, cheese, or beef, no more sheep in number kept, but of better quality, with much fewer losses, and sold fat instead of lean; from which cause, as well as from the greater convenience of managing land concentrated together, instead of dispersed and intermixed, the occupier is enabled to pay a greater rent.

Respecting human labour, and employment for the poor, the balance seems to go rather against the enclosure; the breadth of plough land is certainly contracted, and the business rendered more convenient, both which circumstances imply a necessity for fewer hands.

The management adopted in the clay land is as follows:

1. A certain portion of each occupation, but in what proportion I could not exactly ascertain, (though I think it must exceed a fourth of the whole), is set aside for permanent pasture (I suppose it may be about three-tenths of the whole), after a course of cropping dictated by the landlord or his agent: this is upon the best land, as being likeliest to form a good sward, and make rich feeding land. The method most approved is, to make a summer fallow for barley, and lay down with red and white clover, trefoil, and rye-grass; some fallow for wheat, and sow the seeds on the wheat in the spring; and some allow barley and seeds to succeed the fallow wheat.

On the other part of the clay land, which is permitted for tillage, after laying 3 years at grass, it is ploughed up, and sown with 1, beans; 2, wheat; 3 fallow; 4, barley or oats, with seeds; or, 1, beans; 2, fallow; 3, wheat; 4, barley

barley or oats, with seeds; sometimes pease are sown in part instead of beans: this management has not yet fully succeeded in forming clean turf, but it may be improved by a well managed fallow the succeeding tillage.

In this course, supposing the clay land in 10 equal divisions, 3 of them will be permanent pasture, 3 convertible pasture, 1 fallow, 1 beans or pease, and 2 grain, wheat, oats, or barley; but Mr. Grahame, upon 400 acres, does not grow more upon an annual average than 20 acres of wheat.

On the lighter lands the course is, 1, a crop on the turf, wheat, oats, or barley; the stubble immediately ploughed upon harvest being cleared off, and sown with turnips, rape, vetches, or rye; 2, turnip; 3, barley, with seeds, and then generally 3 years at grass.—SEE COURSES OF CROPS.

Small plots of cabbages in the turnip field, and elsewhere occasionally; Swedish turnips in good repute; sheep rather inclining to the old Leicester; the farmers undecided in opinion, and unwilling to go to the expense of crossing with the new breeds lure rams, such as they can get, at from 5 to 10 guineas, and have an idea that the old breed, full wooled on the belly, and with a moderately thick pelt, are hardier, and stand the winter better.

Mr. Grahame says, he generally shears 400 sheep, and sometimes puts 200 ewes to the ram; his annual sale of sheep may be 200, at £3 each - - - £600

And of wool 100 tods, at 29s. being 28lb. to the tod 145

745

Shepherds' wages, and expense of sales will take off 45

Remain £700

Mr.

Mr. Grahame states, that he folds 200 sheep upon his wheat fallow in dry weather, and sometimes gets over 15 acres in a season; he believes that it injures the sheep, but assists the fallow. The other manures he uses are his farm-yard dung, lime from Barrow, or from Derbyshire, by the Melton Canal, dung from Leicester, and soot sown on the wheat in March; this last, he says, succeeds best when the wheat plant is thick on the ground, but otherwise it is apt to force weeds in the vacant places; he sows from 2 to 3 bushels of wheat per acre.

No drilling nor tillage experiments have been made here, except a few beans set by hand, in which the saving of seed pays the extra labour; but they reckon upon little or no advantage in the crop; 1 bushel of seed per acre is saved, about 3 bushels being set, and 4 sown broad cast: the bushel here 34 quarts.

No irrigation practised; a perennial stream comes through the middle of the parish, for 2 miles or more; but they conceive it would starve the clay land, already too wet, and the light land is chiefly valued for tillage and green crops.

One instance of irrigation here only occurs; a wind machine has been erected, to pump up water from the brook, near its junction with the Wreke river, by means of which, about 10 acres can be watered; but the owner of the machine never thinks of working it except in dry weather, when the land is thirsty, and then the wind does not always blow: the project is smiled at by the neighbours as a visionary scheme.

The clay land in this parish, as in many other parts of the county, is generally laid in broad high ridges, from 10 to 20 yards wide, and from 1 to 3 feet deep in the hollows, supposing a line stretched across the ridges, to measure from. This has been the custom in the strong land com-

mon fields from time immemorial, and is generally continued in the enclosure, both in tillage and at grass. Mr. Grahame informed me, that the best corn was generally, and particularly in wet seasons, upon land so laid, and that he should not lay otherwise any of the clay land in his occupation; the light or sand lands are laid nearly flat.

In the opinion of Mr. Watkinson, of Woodhouse, enclosures have done the most good upon light sound land, and he gives an example of Quorndon, now first rate sheep land, and carrying great crops of barley and green sheep food. Upon the heavy lands of a good staple for wheat, the improvement is much less apparent; less wheat is produced, in consequence of much less land being cultivated; and the attempts to turf the land have often failed, of which he gives an instance in Barrow-upon-Soar, where after the two first years of seeds, it has produced little of any thing, whilst in the common field system it might have borne good wheat.

Common fields.—The common fields of this county, as has been observed before, are in very small compass, a few only remain dispersed in different parts. As they are generally under nearly the same course of management, an account of one will serve for the rest; I shall therefore select the parish and common field of Glenfield, as being near the centre of the county.

This parish has had no modern enclosure; its soil may be divided into 3 classes of management; 1, old enclosures near the village; 2, grass land, pasture and meadow; 3, tillage land.

The enclosures near the village are of ancient date; the fences being full of timber trees, arrived at maturity, but in small proportion to the extent of the parish; they are divided into yards and small pastures; the grass land consists of head lands, and margins between the tillage land, including

including the low grounds or vallies, to which is to be added a considerable tract of meadow and pasture on either side a brook which runs through the parish, and afterwards falls into the Soar. A good portion of this meadow land was under natural irrigation when I saw it, the preceding days having been rainy, but no vestiges of any assistance from art, except the curvature of the water-course, which prevents the water from passing off too quickly. I have often supposed, upon viewing the curvature of water-courses, that the course was artificial, and a project of our ancestors to irrigate the land; who observing the fertility occasioned by an overflow of water, rather chose to submit to the inconvenience of floods, than be deprived of this advantage. I have no doubt, but the natural channel of a stream as formed by the current would be much more rectilinear, than they are commonly found; and that when men found the necessity of a channel to keep the water from off their land, they cut one with a deviating course, to drain the land in common, and to water it in floods.

The tillage land, which consists of a moderately darkish coloured or grayish loam, is in the usual 3 shift course of, 1, fallow; 2, wheat; 3, beans, or oats, or barley; the fallows, when I saw them in the middle of October, were part sown with wheat under furrow, part ploughed up for sowing with harrows, and part had a ploughing yet to perform. A good deal of lime is used, part then spread and part laying in heaps. Some of the fallows but indifferently managed, seemed to have had but two ploughings; but the stacks in the village of hay, and particularly of beans and grain, were much more considerable than in enclosed parishes.

I had no opportunity of learning particulars of tithes or of the folding of sheep, having no recommendation to, or acquaintance with any person; and the day being rainy but
few

few people were about: in spite of the weather I examined the field pretty minutely; many sheep, and other stock, grazing indiscriminately in the grass plots notwithstanding the wheat sowing had commenced. In some of the furrows between the ridges the water lay in considerable depth, the cross guttering having been neglected.

That this parish produces more sustenance and employment for mankind, than the average of enclosed parishes in this county, of equal extent and staple of soil, I have not the least doubt; but respecting nett profit, to the proprietor and occupier, I believe the balance to be in favour of enclosure. The occupation of common field land is attended with extra expense and inconvenience, both from distance, want of connection, and sustaining more trespass than enclosure; but enclosures are generally thrown to pasture in this county, and stocked with sheep and cattle; in which little labour is wanted, nor much attendance necessary.

In the common field system, if one half of the land be at grass, one-third of the remainder, which is one-sixth of the whole, will be wheat, one-sixth, other grain or pulse, one-sixth fallow, and three-sixths, meadow, pasture, &c.

Upon good deep soils that will bear this tillage, and produce good crops under it, perhaps to enclose it, and turn it to pasture, is not a measure of public utility. An acre of wheat upon such land, will, under good management, over and above the seed, produce the annual bread of a family, of four or five persons, which I suppose to be at least half their sustenance, living in as good a style as falls to the lot of the average of mankind; from which it will follow, that an acre of wheat is equal to the full annual subsistence of two persons or more. An acre of such land in pasture,

pasture, will not, I believe, furnish half the subsistence of a single person.

But even the common field system is capable of improvement; if the fallows were better managed, and the lots of the same person more contiguous, more produce might be obtained, at less expense. The bean stubble should be ploughed before winter, for the benefit of the amelioration from frost, which is, I believe, seldom done. Where oats and barley are substituted for beans, as they often are on the lighter spots, green crops, or vetches, may be sown on their stubbles, ploughed up immediately after harvest, which would thus produce pasture, for the folding of sheep on in spring, without harassing them from the grass land, to the bare ploughed fallow.

But as enclosures have generally been a good speculation, and enable the proprietor to raise the rent, so as to pay him a good percentage, who is to prevent it, or to compel him to forego his advantage? and as there is a demand for beef and mutton, as well as bread, and the markets must be supplied, who can pretend to limit the extent of pasture, or coerce the management of private property? The only way then, is to counteract the effect of lesseuing the growth of corn upon good land, by bringing the bad and unimproved land into cultivation, by an universal enclosure and improvement of waste lands, at present almost wholly unproductive: this is a matter of much greater public importance than common field enclosures, as being a kind of creation of food from nothing, or where nothing was produced before, and furnishing employment for the multitude, and thereby affording them the means of obtaining it.

It is generally understood, and is I believe an unquestionable fact, that in consequence of the enclosures which took place in this county, during the latter half of the last century, it does not now nearly find itself in bread, notwithstanding

standing its fertility, and though its population is very little higher than that of the average of the kingdom, and it was before then a corn county.

The general effect of these enclosures has not however tended to diminish the population of the county, which has been gradually and uniformly increasing; those not wanted in agriculture, have found employment in the stocking trade, and other manufactures.—SEE POPULATION.

Mr. Ainsworth says, that grain is allowed to be better produced in open fields, than in enclosures. In the latter, the hedges and trees occasion mildews, by confining the current of air. This is however prevented, in most enclosed countries, by a good old custom, which is pretty general, that of plashing hedges, always the winter after the wheat is sown, which not only lets in the current of air, but also secures the crop, by improving the fence, at the same time a few of the lower branches are lopped from the trees, where that is permitted.

Worthington common field, near Stanton Harold, has been lately enclosed. I made the following memorandums upon it when an open field, 1801. "The parish is part old enclosure and grass plots, and the remainder in the three shift system; 1, Fallow; 2, wheat; 3, beans, or barley, or oats promiscuously; some of the promiscuous crops very foul with couch grass and weeds. I think there is more fault here in the management, than in the system; some of the fallows appear to be only twice ploughed in the season; first pin fallow in the spring or summer, and graze off with sheep, whatever grows spontaneously; then plough back in autumn, and sow wheat. It is now, 1807, enclosed with quicksets guarded by post and rail, and the improvement commenced by cleaner fallows and turnips.

On

On enclosures, from Dr. Darwin. There can certainly be no reasonable objection to the enclosure of commons, or at least to the division of them into private property; and the advantage of enclosing common pastures or meadows, cannot be doubted, as they can certainly be so much the better made of. Gardens also, and lands applied to raising commercial plants, as hemp, flax, &c.; or agricultural ones, for feeding cattle, as turnips, cabbages, potatoes, carrots, &c.; certainly require to be enclosed.

The question of the utility of enclosure, therefore concerns only arable lands; and as the produce of flesh, cheese, butter, &c. take a higher comparative price at market, and are articles of greater luxury, as well as raised with fewer hands, and less care and trouble, than the products of arable land in corn, we may conclude that pasturage will prevail in all enclosed provinces over agriculture; and as a much greater number of mankind can be supported by corn, raised on any given quantity of land, than by its produce of animal food, it follows, that an enclosed province will support a much smaller population; and as the population depends upon the facility with which parents can procure sustenance for their families, marriages will become fewer, and the people decrease, when an arable country is converted into pasturage.

One very important consequence of a country producing a surplus of corn, and exporting it even by means of a bounty, consists in its certainty of preventing famine, the most dreadful of human calamities, as in years of scarcity, the stream of exportation can be stopped.

When a great part of the land of any country becomes employed in pasture instead of cultivation, the inhabitants will become consumers of flesh, instead of consumers of grain, and will consequently decrease in numbers, from the want of a sufficient quantity of

sustenance; a nation should therefore be prevented from becoming too carnivorous, which was formerly done by religious fast days, twice a week; and the cultivation of grain should be promoted, which has been successfully done, by bounties on the exportation of corn; to which might be added, a prohibition of the destructive manufacture of grain into spirits, a chemical poison, *Phytologia*.

Mr. Malthus has however shown, that the distillery operates as a bounty upon the production of grain, by increasing the demand, and is so far salutary; and the production of spirits from grain can be stopped in years of scarcity.

But the enclosure of waste lands, as a measure of public utility, may be illustrated and proved, by that of Ashby Wolds, which from a cold and barren waste, grazing only a few half starved sheep, or mules, have produced large quantities of potatoes, and other human sustenance; and in 1807, were covered with considerable breadths of grain, and much of it in good crops.

SECT. II.—NEW FARMS.

UPON the enclosures of Ashby Wolds, two entire new farms have been established, and several large additions made to old farms; one of each of these, I particularly examined. The new farm, in the occupation of Mr. Johnson, held under the Earl of Moira, consists of 256 acres, of which a lease has been granted for 21 years, at about 13 shillings per acre, but under the following conditions:

1. The tenant to lay out £1000 in building, upon his own plan, but to be approved by the landlord. A plan of this

farmery is given in **CHAP. III. SECT. II. FARM BUILDINGS, 2,** The tenant to enclose the whole, upon a plan approved by the landlord, or his agent, but the latter finding all materials. The tenant is possessed of activity and spirit. I remarked to him, that I thought his terms not very favourable; but he answered, that it was an object to get possession of a farm, under a family that never changes or rack-rents tenants, and especially to him, who is likely to have plenty of successors; and that he believes he shall be able to work through the difficulties attending the undertaking. He has now, 1807, been in possession, I believe about five years, and has gone once over most of the arable; and the land he began with, is come round to produce good clover—**SEE CHAP. VII. SECT. III. COURSE OF CROPS; SECT. XVII. POTATOES. CHAP. XI. WASTES; AND CHAP. XII. SECT. II. PARING AND BURNING. SEE ALSO CHAP. XVI. SECT. I. ROADS.**

The enclosure is done with post, rail, and quicksets (**SEE SECT. I.**) at the expense of about four pounds per acre, of which three-fourth goes for materials, and one-fourth for labour. Whether the tenant was paid for this labour or not, I was not informed. The cultivation begins with paring and burning, at the expense of one pound eleven shillings and six pence per acre; he lays on also about three ton of lime per acre, and 1, fallows for wheat; 2, wheat; 3, oats; 4, three tons of lime per acre, repeated, for turnips; and 5, barley with seeds, clover and ray grass. Sometimes a third crop has been taken before turnips, as with two crops, he thinks the land hardly sufficiently pulverized, and believes it is better for the land, and for the grass seeds, to take three crops before turnips and barley; much drainage is also necessary.

I told Mr. Johnson, that I thought three crops after paring and burning were too exhausting to the land; but he

says it is necessary to rot the turf and the old herbage, and that the land is restored by the lime; besides they have the manure arising from the crops on the premises, and restore it to the land. He keeps eight draught horses, and with them fetches annually 70 waggon loads of lime, at six and a half miles. He grows some vetches for his horses, and had in 1807, 98 acres of oats and barley, and between 40 and 50 of wheat; some of the crops had been good, and were in general fair crops, but nothing can be done without lime. He showed me a barley stubble, in which a small part had been omitted liming; he reckoned the limed part 32 bushels per acre, and the unlimed part eight bushels only; and the young clover appeared in about the same proportion: on land too strong for a green crop, he fallows and limes the fourth year of the course, for barley and seeds.

The Ashby canal reservoir, of 36 acres, is within this farm—SEE CHAP. XVI. CANALS. He hopes to make 50 acres of water meadow; at present he keeps only three dairy cows, which he hopes soon to increase; has a good many young cattle bought in, but can at present keep no sheep, on account of the state of the fences; this he thinks a great inconvenience and loss, which he trusts by degrees he shall be able to remedy.

On land too cold for barley, he sows grass seeds with oats. I observed on the Wolds in August 1807, crops of wheat, oats, and barley, some growing, and some cut; stacks of grain made, and making; oats mown, gathered, bound, and set in rows; wheat stubbles mowing for litter; wheat fallows and lime; also crops of turnips, Swedish turnips, and potatoes.

Mr. Smith, of Ashby, who is a great improver, has in hand 130 acres of the new-enclosed Wolds, which he is very rapidly improving; part is an allotment laid to an adjoining

joining farm, and part glebeland, allotted to the rector in lieu of tithes, and rented from him. Mr. Smith's great means of improvement are paring and burning, fallow with lime, and plenty of drains. Wheat after a pared and burnt fallow well limed, was valued by Mr. Ingle of Ashby at 13 pounds ten shillings per acre ; but without lime, the land, and treatment the same, at only five pounds ten shillings per acre.

Mr. Smith also sometimes takes three crops to pulverize the soil, before turnips, or the seeding crop ; thus 1, pare, burn, and lime six tons per acre, on a fallow for wheat ; has had the paring and burning done at 30s. per acre, 26s. paring, and 4s. burning. 2, wheat ; 3, oats ; 4, wheat repeated ; 5, turnips, or fallow ; 6, barley and seeds ; or 4, turnips and fallow ; 5, barley and seeds : had this season, 1807, oats after a lost fallow, meant for wheat, but too late to sow in good order, and therefore let it lay for oats ; was ploughing the stubble three times for wheat. Mr. Smith's ploughing here was doing with two plough teams, of a horse to lead, and the oxen to follow in each team, with wheel ploughs and a driver, but no holder ; or, a horse to lead, and four oxen sometimes draw a two-furrow plough.

Draining was done with great spirit on the harsh clay soil, (SEE CHAP. XII.) and meadows are already forming. Stone on the swells or rising grounds, beneath the soil is in great plenty, which is raised for rough walling and draining at 9d per cart-load ; these swells, or hills, are sometimes light soil.

The course on the glebe land, is, 1, pare and burn, and lime for oats ; 2, oats repeated ; 3, wheat ; 4, fallow, or turnips, with lime ; 5, barley and seeds. An oat stubble had been cleared so early as to sow colesced and rye in August, and which was very promising for a sheep pasture : this would of course be followed by turnips.

I cannot help thinking that taking three crops running, before the turnip or fallow crop, is harder tillage than necessary ; and that the land might be sufficiently pulverized by two crops, to complete such pulverization by fallow or turnips. Good clover was however produced on the Wolds in 1807, after such treatment, and the young clover amongst the stubbles, where lime had been freely used, was very promising: the attempts at cultivation without paring and burning had not been attended with success, in any proportion equal to those above detailed, and the practice of paring and burning had therefore been very general.

Land on the Wolds in its open and unimproved state, had been sold at £16 per acre. From these details, it may be supposed the land had naturally some depth and staple, which is the case ; though in its open state it had a very unpromising appearance from water lying, and tufts of rushes. It also threw up furze and heath, but with many bare places of matt grass, (*nardus stricta*). It still abounds with plenty of its native plants and flowers, particularly ragwort, (*Senecio Jacobaea*) ; sneeze wort, (*achillea ptarmica*) and rushes.

CHAP. VII.

ARABLE LAND,

SECT. I.—TILLAGE.

THE tillage land in Leicestershire is much less in proportion than that of most other counties. In the south, east, and middle of the county, are many instances of farms and occupations, without any tillage land whatever.

In the north and west a proportion of each farm is commonly kept in tillage: on Dishley farm about one-fourth of the land is kept in tillage, including green crops: on the Beamanor estate, one-third of the land is sometimes allowed in tillage. Mr. Astley's farm, at Odstone, grows a good deal of grain, as do the Messrs. Stones' on their different occupations; but oats and barley are with most of them a much greater favourite than wheat.

Ploughing is very generally done with the one or two furrow plough, described CHAP. V. The one-furrow plough, drawn by three horses, will easily plough an acre a day; or, the two-furrow, with five horses, two acres in the same time: the furrow is about nine inches wide, and from four to six inches deep, seldom more for common crops. A furrow nine inches wide requires eleven miles in length for an acre; allowing one mile for turning, the team goes only twelve miles to perform the above task, which

at two miles an hour would be done in six hours, and is therefore but a moderate day's work : in seed time, or when work is pressing, more may be done. As the soil of Leicestershire is scarcely ever very light or sandy, but has a tenacity or staple, with an admixture of loam, the above strength, and number of horses, is not more than the case requires.

The ploughing on Lord Moira's farm (Donnington Park) is done by two horses drawn abreast, and guided by reins, with a light neat plough, which requires holding (SEE IMPLEMENTS): on broken or loose ground they go on well, but I conceive, upon strong lay turf land, ploughing up a good furrow fit to sow with a crop, must be too heavy work for two horses with any plough. This mode of ploughing is imitated but in few instances ; if two horses be quite sufficient for all work, it is worthy of more general imitation.

More information is given respecting ploughing, and sorts of ploughs, under the article IMPLEMENTS, which see.

Harrowing.—Various kinds of harrows are made by Hanford and Co. (SEE CHAP. V.) Scufflers, or cultivators, now in some measure supply the place of harrows, in working and pulverizing land ; but harrows are used to cover in the seed, drawn by one, two, three, or more horses, according to the weight of the harrows, and state of pulverization of the soil.

Rolling of land after sowing is generally done on spring sown crops ; also, on turnips after sowing, to break small clods and level the surface ; and always after sowing grass seeds, a plain common roller is generally used. On fallow ground, heavy and spiked rollers are used after the harrows, to break clods, and assist the pulverization, which is sometimes a work of difficulty on strong harsh soils.

Scarifying

Scarifying is only used to my knowledge with Cooke's drill, to loosen and stir the soil between rows of barley, sometimes previous to sowing the clover and grass seeds.

Ridges.—Most of the land of Leicestershire requires ridging, very little, if any of it being sandy or dry enough to lay quite flat. On the lighter loams the ridges are of a moderate width, four, five, or six yards wide, and raised as much as one or two gatherings of the plough. In the strong lands, and particularly in the ancient common fields, the ridges are much broader and higher; from ten to twenty yards wide, and from one to three feet deep in the hollows, (supposing a line stretched across the ridges to measure from), is very common; and I have heard of ridges where two persons could not see each other standing in the opposite hollows, but I suppose this to be an exaggeration—SEE CHAP. IV. ENCLOSURES.

Drilling is fairly introduced in the county. Cooke's drill, and its appendages, are in the hands of many principal farmers, as well as Bailey's Northumberland drill; and at Dishley, and elsewhere, they have used Hanford's drill boxes, or hoppers, which may be fastened to any plough—(SEE CHAP. V. IMPLEMENTS). More particulars of drilling will be given under the different varieties of crops.

Horse-hoeing is practised between rows of cabbages, potatoes, and other green crops set by hand; also, between rows of beans, and other crops, laid in by Bailey's drill machine, and is pretty much practised at Lord Moira's, and a little elsewhere. Hand-hoeing is applied to turnips, common or Swedish, sown broad cast; also, to pease, and to the finishing of other crops after horse-hoeing. Coleseed, or other green crops, sown broad cast, are also hand-hoed, if necessary.

Weeding, by hand, is applied to turnips and other green crops

crops after hoeing, to pluck up and destroy straggling plants of chadlock, or other weeds, that have escaped the hoe; the same is done in spring and summer, in wheat, barley, and other crops; but for thistles, as they cannot well be handled, they are commonly cut off with a spud, or sharp tool, though they would be much better plucked up by the root by weeding tongs, which has been done, but not generally; but in this case prevention is better than cure, and all weeds should be extirpated by good culture in the fallow or preparation; but if any escape, it is necessary to prevent an abundant increase, by destroying their seed, and plucking up in time; the yellow flowered weed called chadlock, which comprehends and includes three separate and distinct weeds, viz. wild mustard, radish, and rape, will increase a hundred or a thousand fold, if suffered to shed their seeds on the land; the corn marigold, corn chamomile, lake weeds, provincially willow weeds, which are common upon cool bottomed land, and particularly the chenopodium species, provincially fat hen, and wild spinach, are all wonderful-seed bearers, and will increase a thousand to one sown, unless prevented by cultivation or weeding; the (thlaspi) shepherd's purse species also increase wonderfully by seeds; chickweed and groundsell should not be suffered to seed, though they indicate a good soil, or high culture; the former spreads both from seeds and roots on finely pulverized land, the latter will fly all over the country if not extirpated in time: these and other weeds are so injurious to all cultivated crops, that too much pains cannot be bestowed in their extirpation.

SECT. II.—FALLOWING,

IN Leicestershire, is but little practised, except for green crops, and in the few remaining common fields; but some
few

few instances remain of fallowing for wheat, upon strong and cold land, where green crops cannot be grown to advantage; this is sometimes the case upon the Beaumanor estate (Mr. Herrick's), also in the modern enclosures of Queeniborough; but in the latter, as well as in the vale of Belvoir, it is more common to fallow for barley; but to a Leicestershire farmer, fallow and turnips are synonymous terms, implying a course of summer tillage for cleaning foul land. But this fallow, unless the land be too stiff or strong, if it can be well cleaned in time, is most commonly sown with turnip, or if otherwise, sometimes stands over for wheat or barley; and it is not uncommon to see a field part turnips, and part wheat after fallow, as the great intention of a fallow is to pulverize the land, and destroy weeds. To effect these purposes, it should be properly managed; to which end the land should always be ploughed in autumn, and furrows drawn and properly opened to take off the wet; it will then receive great benefit from winter frosts. When the land becomes dry in March, it should be cross ploughed and harrowed down as fine as may be; it may then lay till spring seed time be finished, during which time many weeds will shoot forth: early in May it should be again well ploughed; this ploughing will destroy the weeds already grown, and expose the root weeds, and by schuffling and harrowing they may be fetched out, and the land well pulverized: the manure should then be laid on and spread, and the land, again ploughed, will generally be ready to receive the seed of a green crop; if not, it should lay for further harrowing and ploughing. Dry weather is always the best for destroying root weeds, and for harrowing down the land, but showers best promote the growth of seedlings, which are to be afterwards destroyed by further culture.

SECT. III.—COURSE OF CROPS.

THE favourite course of crops of the Leicestershire grazier, breeder, or principal farmer, upon all mild, moderate, or friable loams, is a five tith system, as follows : 1, oats, or wheat, or sometimes, but more rarely, barley ; 2, a green crop, turnips, Swedish, or cabbages, or coleseed ; 3, barley, with seeds, viz. red and white clover, trefoil, and ray-grass (and at Dishley a few pounds of burnet have lately been added for experiment) ; and 4 and 5, pasture and clover mown : I believe this course will include half the tillage land of the county, or 120,000 acres.

No. 2. Upon light land the Norfolk system is sometimes adopted ; this is the case upon the Beaumanor estate, at Lord Moira's, and elsewhere, but not widely extended ; 1, wheat ; 2, green crops ; 3, barley ; 4, clover and grass seeds ; suppose on this system 20,000 acres.

No. 3. A six shift system is adopted by many good managers, and this varies with circumstances, according to the nature, state, and condition of the land, and the judgment of the occupier. Mr. Astley, and others, sometimes take thus : 1, oats ; 2, wheat ; 3, turnips ; 4, barley and seeds, and then at grass 2 years.

Mr. Watkinson of Woodhouse, 1, wheat ; 2, pease and coleseed on the stubble ; 3, turnips ; 4, barley and seeds, and then at grass for 2 years.

Mr. Herrick's tenants at Beaumanor, are sometimes permitted to take, 1, wheat ; 2, oats ; 3, turnips ; 4, barley and seeds, and then at grass 2 years.

At Dishley the course is often and generally, 1, oats or wheat ; 2 and 3, green crops, in which vetches are included ; 4, barley with seeds, and then at grass 2 years.

At Lord Moira's, whose farming business is very ably con-

conducted by Mr. Rutherford, the farming bailiff, and who is very active and intelligent, the course on strong land is, 1, beans drilled at 2 feet 3 inches; 2, wheat; 3, green crops; 4, barley and seeds, and then at grass for 2 years or more. I may here observe, that at Dishley and other places, the land often lays more than 2 years; but then a piece of pasture, which I have supposed attached to the permanent grass land, is often broken up instead, which gives the same effect as though the arable had only lain 2 years.

At Mr. Stone's, of Barrow, on strong land, 1, beans set by hand; 2, wheat; 3, green crops; 4, barley and seeds, and then grass 2 years.

At Queeniborough, 1, beans or pease; 2, wheat; 3, fallow, the land being supposed too strong for a green crop; 4, barley and seeds, then grass 2 years.

There are other variations in the six shift tillage, as; 1, oats or beans; 2, fallow; 3, wheat; 4, barley and seeds, and then at grass 2 years. This 6 shift system may, I think, be estimated to extend to 60,000 acres.

No. 4. A longer system, average suppose 8 years, is practised by some, as 1, oats; 2, vetches; 3, wheat; 4, green crops; 5, barley and seeds, and then at grass 3 years; or, sometimes at Dishley, 1, oats; 2, vetches; 3, 4, green crops, 2 years; 5, barley and seeds, then at grass 3 years; or, sometimes at Queeniborough, and elsewhere, on strong land, 1, oats; 2, beans; 3, wheat; 4, green crops, or fallow; 5, barley and seeds, and then at grass 3 years: this longer system may be estimated to extend to 32,000 acres.

No. 5. Remains of the common field system, as continued at Glenfield, Tilton, Walton, and the few remaining open fields; this originally a 3 shift system, (1, fallow; 2, wheat; 3, beans), may now be called a 4 shift, as barley

with seeds is sometimes sown after the beans; or clover amongst the wheat in the spring, making it sometimes a 5 shift, as, 1, fallow; 2, wheat; 3, clover; 4, beans, or other pulse; 5, barley or oats; or, 1, fallow; 2, wheat; 3, beans, or other pulse; 4, barley or oats; 5, clover: it may therefore be reckoned a 4 shift on the average, thus; 1, fallow; then one-third of the remainder wheat; one-third beans, or other pulse; and one-third barley and clover; extent 8000 acres.

An anomalous system is practised upon the new enclosure of Ashby Wolds, under pretence of pulverizing the soil of this ancient waste (SEE ENCLOSURES). This is, 1, pare, and burn and lime, for wheat; 2, wheat or oats; 3, oats repeated; 4, fallow or green crop, and the lime repeated; 5, barley and seeds. Upon my objecting to this as an exhausting course, I was answered, that it is necessary to reduce and pulverize the soil; that the double liming restores it, and that they have the manure arising from the crops in the yard, ready to return to the land. But this course being merely temporary, will of course, in due time, naturally mix with some of the established and less exhausting ones above-named.

RECAPITULATION OF COURSES OF CROPS:

No. 1. Five tilth System.

1st Year.	2d Year.	3d Year.	4th & 5th Year.	Acres.
Oats, or Wheat, or Barley	Green crop—Barley —Grass .			Supposed to extend to - 120,000

No. 2. Four tilth, or Norfolk System.

1st Year.	2d Year.	3d Year.	4th Year.	
Turnip	—Barley	—Clover	—Wheat	—Supposed to extend to 20,000

No. 3. Six tilth System.

1st Year	2d Year.	3d Year.	4th Year.	5th & 6th Yr	
Oats	Wheat	Green crop	Barley	Grass	} Supposed to extend to - 30,000
Wheat	Oats	Do.	Do.	Do.	
Do.	Pease	Do.	Do.	Do.	
Oats or Wheat	Green crop	Do.	Do.	Do.	} do. - 30,000
Beans	Wheat	Do.	Oats or do.	Do.	
Do.	Do.	Fallow	Do.	Do.	
Do. or Oats	Fallow	Wheat	Do. or Oats	Do.	

No. 4. A longer System, average 8 Years.

1st Yr.	2d Year.	3d Yr.	4th Year.	5th Yr.	6th, 7th & 8th Yr	
Oats	Vetches	Wheat	Green crop	Barley	Grass	} Supposed to extend to - 32,000
Do.	Beans	Do.	Do. or Fal- low	Do. or Oats	Do.	

At Lord Moira's, 1807.

No. 5. Common Field System.

1t Yr.	2d Yr.	3d Year.	4th Year.	
Fallow—Wheat	{ Beans, or other pulse }		{ Barley, Oats, or Clover }	Supposed to extend to - 8,000

Arable Land of the County. = Total Acres 240,000

From

From the above data, which is, I believe, as correct as the nature of the case will admit, may be deduced the acres of the different crops grown in the county, after premising that upon the breaking up of turf land, oats are so much more a favourite crop than wheat, that near 2 acres of the former are grown for one of the latter: I shall take it 5 acres of oats against 3 of wheat, and shall set the barley sown on turf, against the spring wheat sown after turnips;

Then the wheat grown in the county may be	Acres
estimated at - - - - -	25,000
Barley, about - - - - -	40,000
Oats on turf, or after wheat, or on strong land	
instead of barley - - - - -	30,000
Beans 10,000 acres, pease and vetches 5,000	15,000
Green crops, turnips, cabbages, coleseed, po-	
tatoes, &c - - - - -	40,000
Arable land, at or under clover or artificial	
grass - - - - -	85,000
Fallow for wheat or barley - - - - -	5,000
	<hr/>
Acres	240,000
	<hr/>

SECT. IV.—WHEAT.

1. PREPARATION.—When wheat is sown on turf, or on clover lays, the land requires no preparation but one ploughing; and the land in that state being generally in good heart, no manure is necessary, unless the farmer chooses to give a top dressing of soot in the spring, which will generally answer upon clean land; and Mr. Grahame says, best when the wheat is thick on the ground, otherwise it is pretty sure to force weeds in the vacant places.

When

When wheat is grown after oats, beans, or other crop; the land is sometimes partially fallowed and ploughed 3 times. Mr. Rutherford, at Lord Moira's, was giving the bean stubbles a second ploughing, when I was there, the beginning of October, 1807, and meant to plough them a third time before sowing the wheat, which was meant to be put in by Cooke's drill, before the end of October.

In the common fields, and in a few other instances, the land is fallowed for wheat (SEE FALLOWING), and manured with muck or lime, which is, or should be, laid on in summer before the third ploughing, and the land should receive one or more ploughings after. The season for sowing autumn wheat is October, or a little before or after; for spring wheat generally the month of April; this is sown after the eating off of turnips, or other green crop, at one or more ploughings.

On lay ground wheat is sown broad cast, two bushels and a half per acre, and well harrowed in, but on pulverized land often drilled. At Lord Moira's, Mr. Rutherford puts it in upon bean stubble well worked, with Cooke's drill, 2 bushels per acre, in 6 rows at 10 inches, or 5 at 12 inches; the sort, the red straw lammas. Spring wheat has also been tried here, sown in April, and answers well; I examined some thrashing in a barn, it is a white ear, a little bearded, and red grain (*triticum aestivum*). I understand it sells in the market about 6d. per bushel lower than good autumn wheat. Mr. Rutherford assured me, their growth was 4 quarters per acre, and he reckoned it to pay full as well as 6 quarters of barley, and its growth was meant to be continued. Mr. Stone, and others, also occasionally grow spring wheat. The grass seeds succeed better with it universally than with barley, the straw standing upright, and being less smothering to the young plants

of clover, &c.; it is sown after a green crop instead of barley.

To prevent the smut in wheat, steeping in brine, or swimming the seed in a tub of brine, and skimming off whatever swims, is practised; or putting down the seed in a heap, and well saturating it, by pouring on brine or urine, and afterwards well drying it with quick lime is also practised, and the result satisfactory; the former method certainly the best, were it not that the brine, if fouled by the smut dust, is not fit for re-using. I suspect that this preparation will interfere with the practice of drilling, unless the seed be afterwards spread thin for some time on a floor, when I believe it will pass the ladles of the drill machine; if the seed be drilled or sown without this preparation, care should be taken that it is from a sound stock, or sort perfectly free from the least taint of smut, when I believe the risk of producing smut will be very small on well prepared land.

Dibbling of wheat is not much practised; a few years back, the late Mr. Wilkes made an experiment upon Ashby Wolds, upon between 30 and 40 acres, of paring and burning for potatoes; the ashes were laid in rows, and the land ploughed in narrow ridges for potatoes (SEE POTATOES), and paring and burning; the potatoes were got up by forking along the middle of the ridges only, and the ridges preserved; they were afterwards rolled down by drawing a heavy roller along them lengthways, and dibbled with wheat without further tillage. The experiment succeeded perfectly well as to the potatoes, but the wheat failed, the crop not exceeding 7 or 8 bushels per acre. Mr. Johnson, of the Wolds, thinks the clods were not sufficiently pulverized for wheat, though the ashes and fresh soil had forced a good crop of potatoes: I saw part of this wheat after coming up, October, 1801, and it then

looked promising, but failed the following summer. I heard of no other instance of dibbling wheat in the county.

Water furrowing is of course practised, between the ridges of all wet land sown with wheat, as well as cross gutters made, to clear such furrows of water, and discharge it into the ditches. This being necessary upon all wet land not well under-drained.

Hoeing of wheat is only practised where it is laid in by the drill, and is either done by hand, or by Cooke's scarifiers. Feeding it off by sheep is sometimes done in the month of March, when it is got forward, and is supposed to do it no injury if eaten before April, and is of some value to the sheep. The reaping is universally done with a sickle; the corn bound in sheaves, and set up in shocks, and when sufficiently seasoned carried to the barn or stack; the stacks generally placed on rick-stools to keep out vermin.

The distempers to which wheat is principally subject, are the mildew and smut, and I heard of no other in this county, nor any particular complaint of them this season, 1807, the wheat being kindly, and likely to be productive. The mildew is doubtless from the atmosphere, the cause humidity and want of sufficient sunshine: the theory of Sir Joseph Banks, that it is caused by funguses, is, I believe, beginning at the wrong end; such funguses, if they exist, being the effect and not the cause of the disease. I fear the prevention and cure are beyond human effort, and believe nothing can be done but good preparation and sowing in due season; the rest must be left to the seasons and their director.

The smut may be sufficiently prevented by choosing sound clean seed, and by the usual process of swimming or washing in brine or urine, or both, and drying with lime or ashes: I never heard of, or knew the smut in any great degree

degree injurious, but in cases where that process had been neglected, nor even then unless there was some taint of smut in the seed.

Burnt, or black ears, do no injury to the rest of the crop, but are merely the loss of so many ears; but I think corn in any more than common degree subject to them, should not be sown, as the evil has a tendency to increase, and the same of barley.

The process of stacking wheat is known to every good labourer. Thrashing is done by the flail, unless in the few cases where thrashing mills are erected, and which are likely to increase.

Price of Corn in Leicester Market, Oct. 3, 1807.

	34 qts. Customary M.	Average	Win. B.
Wheat from	- £ 3 10 0	{ 3 14 6	3 9 1
to	- 3 19 0		
Rye	- 0 0 0	{ 2 6 0	2 3 2
Barley from	- 1 18 0		
to	- 2 6 0	{ 2 2 0	1 19 6
Oats from	- 1 6 0		
to	- 1 17 0	{ 1 11 6	1 9 8
Beans from	- 2 8 0		
to	- 2 16 0	{ 2 12 0	2 9 0
Blue Pease	- 0 0 0		
Hog Pease	- 0 0 0	{ 2 12 0	2 9 0
Oatmeal	- 0 0 0		

Joseph Smith, Corn Inspector.

City of Leicester. Hundred of Framland. The Assize of Bread, set the 22d day of Sept. 1807, to continue 14 days.

	lb.	oz.	dr.
The penny loaf, wheaten, to weigh	-	0	6 9
Ditto household	-	0	8 2
		Two-	

Two-penny loaf, wheaten, to weigh	-	0	13	2
Ditto household	-	1	0	8
Six-penny loaf, wheaten, to weigh	-	2	7	6
Ditto household	-	3	1	8
Twelve-penny loaf, wheaten, to weigh		4	14	12
Ditto household	-	6	3	0
Eighteen-penny loaf, wheaten, to weigh	-	7	5	3
Ditto household	-	9	1	11

J. S. Brown,

T. B. Burnaby.

*Hundred of Gartree.—The Assize of Bread for the
Hundred of Gartree, in the county of Leicester.*

	lb.	oz.	dr.
The six-penny loaf, wheaten, is to weigh	2	2	14
The six-penny loaf, household	-	2	14
The twelve-penny loaf, wheaten	-	4	5
The twelve-penny loaf, household	-	5	12

Set by us, two of his Majesty's justices of the peace in and
for the said hundred, the 29th day of Sept. 1807, and to
continue in force for 14 days, from Saturday next.

E. Griffin,

C. J. Bewicke.

*Hundred of Guthlaxton.—Assize of Bread for the
Hundred of Guthlaxton, to take place on Monday
the 12th of Oct. to be in force until another Assize is
set for the said Hundred.*

	lb.	oz.	dr.
The penny loaf, wheaten, to weigh	-	0	5
Ditto household ditto	-	0	7
The two-penny loaf, wheaten, ditto	-	0	11
Ditto household ditto	-	0	15

H 3

The

The six-penny loaf, wheaten, ditto	-	2	2	1
Ditto household ditto	-	2	13	3
The twelve-penny loaf, wheaten, ditto		4	4	2
Ditto household ditto	-	5	10	6
The eighteen-penny loaf, wheaten, ditto		6	6	2
Ditto household ditto	-	8	7	9

C. Chambers.

Every wheaten loaf is to be marked with a large roman W. and every household loaf with a large roman H. on pain of forfeiting not more than 20s. nor less than 5s. for every loaf.

The wheat harvest is in August and the beginning of September: the stubbles of wheat are pretty generally mown, hacked, or harrowed off, and carried to the yard for litter.

The average produce of wheat in this county may, I suppose, be stated at 3 quarters and a half, or 28 statute bushels per acre: the well cultivated land produces probably 4 quarters, the common fields and inferior culture less than 3 quarters, average as above: deduct the seed, and suppose 25 bushels per acre nett produce, at 60 lb. to the bushel, this gives 1500 lb. weight of wheat per acre; the growth has been before estimated at 25,000 acres: if we allow 1 lb. weight of wheat per day to each individual, from the above data, the growth of the county will supply little more than 100,000 persons, but the population of the county is near 130,000; the county therefore supplies bread for only about four-fifths of its inhabitants, leaving nearly one-fifth, or about 25,000 persons unprovided for, to be supplied from elsewhere.

Additions to the article wheat: transplanting of wheat recommended.—A gentleman of Cambridge sowed some wheat, June 2d, and on August 8th, one plant was taken
up

up and separated into eighteen parts, and re-planted ; these plants were again taken up and re-planted from September 15 to October 15, and were then 67 plants ; they were again taken up and divided in March and April ; and finally produced 500 plants, these produced 21,109 ears, and three pecks and three-quarters of corn, weighing 47 lb. 7 oz. and estimated at 576,840 grains.—*PHIL. TRANSACTIONS*, v. 58.

I know from my own experience, that wheat transplanted in April, will ripen well with the other crop, and be equally productive. Dr. Darwin says, wheat may be sown in a garden (or nursery), and one acre will produce sets for one hundred acres, at nine inches asunder : this is being too sanguine, though I think one acre may supply twenty ; and this may answer when and where plenty of hands can be had at reasonable rates. He recommends spring rolling of wheat, to consolidate the ground and squeeze caterpillars ; says, wet seasons in wheat blossoming time, may wash away the anther dust, and prevent fecundation, and he believes may occasion the smut. There is, however, no doubt but the smut is caused by infected seed, though other unkindly circumstances may operate as predisposing causes : to prevent the smut, he advises, to steep the seed in brine that will swim an egg ; or, 2d, in lime water ; or, 3d, which is thought most efficacious, in an alkaline ley, made by adding pot-ash to lime-water, and to dry it with quick lime.

The following, too, is given as a certain preventative of smut, from different very respectable authorities : Boil 1 lb. of arsenic in a few gallons of water, and increase it to 28 gallons ; put the seed wheat into it through a riddle, and skim off whatever swims ; let it steep six or eight hours, and dry as usual with quick lime.

A bushel of wheat is said to contain from 620,000 to 645,000 grains of corn.

SECT. V.—RYE.

VERY little rye is grown in this county, except what is sown for early spring pasture for sheep; occasionally a head land, or hedge side, may be sown, to supply seed for the above purpose; or, sometimes a patch of light land; but little or none used here in the manufacture of bread.

The rye, for early spring sheep pasture, is sown upon an early oat, barley, or pea stubble, so soon as the crop is cleared off, which will be in August; the rye is grazed by sheep the following April, and the land immediately ploughed for turnips, or other green crop,

SECT. VI.—BARLEY.

THE greatest part of the barley is sown after green crops, at one or more ploughings; two should always be given, if possible, as it is much more kindly for the seeds, with sufficient harrowings between the ploughings; and rolling, if necessary, to break clods and pulverize the land. As it is well known barley and seeds succeed best upon a fine tilth, the principal tillage is, in this case, given for the green crop, which is the same as that given for a fallow—**SEE FALLOWING.** Barley is also sown after a whole years fallow, upon land too harsh, strong, or wet, to eat off green crops to advantage: this gives an opportunity of perfectly cleaning the land before laying to grass, and the loss by the fallow is soon compensated by a full barley crop, and an excellent clean pasture; and although barley is generally supposed to be adapted only to light land, where green crops may be grown, yet Mr. King assured me,

me, that the greatest part of the vale of Belvoir (although strong land) will bear barley, and in great crops when clean fallowed, though unfit for turnips.

Barley is also sometimes grown after fallow wheat, at Quceniborough, and elsewhere, but in no great proportion; this is the old fashioned way, and ought to be abolished, as barley after wheat is too exhausting for any land to bear, and graze well after. When this is practised, the wheat stubble is pinfallowed before Christmas, cross ploughed and harrowed down the March following, and the land ploughed up and sown in April. Barley is also grown in a small proportion upon turf land after one ploughing, upon light loam, the land being in fine tilth and in good heart; I suppose about as much barley may be sown on turf land, as there is spring wheat after green crops: the barley stubble, in this case, is sown with coleseed for early sheep pasture, and the next summer turnip fallow.

The manure for barley is always laid on the fallow, or for the green crop; the folding of sheep on the green crop makes an excellent dressing for the barley, and generally forces a full crop.

As grass seeds are almost universally sown with barley, the best manure for the green crop, or fallow, is lime, from four to six tons per acre; to which may be added, muck, if it can be had or spared: but lime, if the land has not before been used to it too much, is so excellent a stimulant, in forcing the grass seeds and producing a good pasture, that it ought to be preferred in this case. A flock of sheep, in grazing the pasture, will annually improve the land, and in due time it will come up again for tillage, mellow and in a state of fertility.

Cooke's drill is considerably used for barley, by many of the principal occupiers, though I suppose much the greatest proportion of land is still sown broad cast. As
barley

barley ground is generally in fine tilth, the drill can be used to advantage; and I suppose more barley is drilled than all other crops put together. At Lord Moira's, Mr. Rutherford uses Cooke's drill for barley; he reports that he lays in but two bushels of seed per acre, whereas from three to four bushels are sown broad cast, and that he gets back six quarters per acre; this is twenty-four for one; a great increase! The barley is drilled at twelve inches, five rows at a time; after the rows appear, the scarifiers are applied by means of the same drill machine, to loosen the soil, and root up any weeds that may be in their way; the clover, and other seeds, are then sown, and a pair of light harrows run over the land without injuring the barley; the whole is then rolled level, and remains till harvest.

Drilling of barley has long been occasionally practised at Dishley. Mr. Honeybourne thinks the practice is rather gaining ground, but that till a clean cultivation becomes more extended, it is in vain to expect its general adoption.

Mr. Watkinson, of Woodhouse, has used Cooke's drill considerably for barley, but sometimes sows part of a piece broad cast for comparison, and can scarcely perceive a difference; but says, if he may venture an opinion, it would be in favour of the drill: he thinks the straw is generally stronger, and the grain better bodied; but hoeing the barley is omitted, because it interferes with the grass seeds, and after the drill, the grass seeds are obliged to be light harrowed in, and the land is afterwards rolled. Mr. Watkinson observes, that for the drill to be used to advantage, the land must be highly prepared; hence it is very probable, that as much or more advantage is derived from the preparatory tillage, than from the mechanical process of laying in the seed. The time of sowing barley is very generally the month of April, and the harvest in August and early in September; the sort sown is very generally
the

the early long ear (*hordeum distichon*); this sort ripening in good time, and generally producing a good sample: the quantity of seed drilled is two to three bushels, sown broadcast three to four bushels per acre, saving by drilling one bushel. Respecting the harvesting, barley is always mown with a scythe, and the swathes being turned over after the top is well dried, will, if the weather be favourable, soon be ready to put in cocks, and carry to the stack or barn; but in rainy seasons the business is protracted; it requires many turnings, openings, and spreadings; the farmer is harassed, his expenses increased, and the grain injured, and sometimes spoiled for malting: a wet harvest may therefore be considered as a public calamity.

Produce.—The produce of barley is various; Mr. Rutherford, at Lord Moira's, states his average at six quarters per acre, a quantity often produced elsewhere by good management on good land; and a great deal more has been known, to seven or eight quarters in particular instances; but, I suppose, three or four quarters are also very common, and cannot put the average so high as five quarters, and believe it does not exceed four quarters and a half per acre, over and above the seed sown.

As barley is the favourite crop of grain of the Leicestershire farmer, from its properly succeeding green crops, and being kindly to the succeeding grass seeds for pasture, a much greater breadth is grown of this, than of any other grain or pulse; and it comes out by the estimate made on courses of crops, that the growth of barley in this county extends to 40,000 acres of land; this, at four and a half quarters per acre, makes the annual produce 180,000 quarters.

If we suppose one-third of the whole in light, tail end, or inferior barley, given to live stock, there remain 120,000 quarters for the brewery; the consumption of the
county

county in malt liquor, at four bushels per head, would be 65,000 quarters; to this add 15,000 quarters for the supply of inns and travellers, leaves 40,000 quarters as a surplus of barley for the supply of other counties; and there is no doubt but this county has a considerable surplus of barley, for the supply of the Burton-upon-Trent brewery, as well as of that carried on within itself: there are two breweries upon a large scale carried on at Loughborough.

The sort of barley almost universally sown is the early long ear, which has been found generally to yield best, and to operate quicker, both in the malt-house and cellar, and on those accounts is generally preferred, both by the maltster and brewer. The spratt barley (*hordeum zeocriton*) was formerly more sown than at present, was reckoned more hardy, and less liable to be laid by rain, and was thought by some to make the best keeping beer.

Barley is universally mown with a scythe, and when the swathes are dry on the top they are turned over, and when dry and well seasoned it is got into cocks, and the ground clean raked, and then carried in waggons to the barn or stack. The barley harvest is at the same time with that of wheat, August, and the beginning of September.

The straw of barley is generally thrown before cattle, about the fold-yard, or in cribs in great plenty for them to pick at, but they are not confined to live on it entirely, nor is it supposed to afford much nutriment, or that cattle would thrive on it alone; they have generally the addition of a few turnips, or a little picking at grass: the great object being to tread it into manure, and mix it with a sufficient quantity of their dung and urine, to bring on a proper fermentation for that purpose.

No bread is made of barley in Leicestershire, I believe
not

not under any circumstances ; its sole use is in the brewery, and in feeding the different kinds of live stock.

SECT. VII.—OATS.

A GREAT many oats are grown in this county, it being, I believe, the second favourite grain crop, and being a horse county there is a great demand for oats : the straw also is reckoned more valuable than any other ; the culture also is simple, and the produce large, being more per acre upon the average than any other grain or pulse.

Oats are almost wholly grown the first crop upon turf land ; the tillage, therefore, consists only of once ploughing, sowing the seed broad cast, and well harrowing it in, afterwards rolling the land : no manure is used. They are seldom drilled, being an awkward formed grain for that mode of sowing. The time of sowing is March, or the beginning of April ; the sorts generally or wholly a white oat, Poland, Dutch, or what is called the potatoe oat ; I saw no instance of red or black ones, and believe they are seldom, if at all, grown. It is the custom here to sow them pretty thick, six or seven bushels per acre. They are weeded by hand, in due time, if any weeds arise ; but being of quick growth, and generally sown on turf land, are little subject to weeds, on land in any thing like good culture.

Oats are in a few instances sown after fallow wheat, on cold land, and also after a green crop instead of barley, on similar land ; in either case, once ploughing is generally thought sufficient. At harvest the oat is generally first ripe early in August ; if a full crop and long in the straw, they are often reaped with a sickle, bound and set up in mows or shocks like wheat ; sometimes mown with a scythe,
and

and afterwards gathered and bound in sheaves; and at other times harvested loose, after turning and cocking in the manner of barley. The produce of oats is very considerable. Mr. Stone, of Barrow, informed me, that he has grown 11 quarters per acre, a piece through, naming a piece of moderately strong land which I had seen; but I believe as little as five, four, and three quarters per acre are often grown; and as a good deal of seed is sown, I suppose the average produce of the county does not exceed five quarters per acre, over and above the seed sown.

The straw is given to cattle as fodder, who eat the chaffy awn, and slender part of the straw near it pretty clean, but leave the stalky lower end of the straw: the whole is sometimes cut together in a straw-cutting machine unthrashed; grain and straw as food for horses, but a little corn required in addition: oats are principally consumed by horses, of which a great many are kept and bred in the county, after selecting some of the best samples for making oatmeal; though no oat bread is consumed in this county, yet there is a demand in every private family for oatmeal to thicken gruel, pottage, &c. I suppose for these purposes the consumption of each family, on the average, may be put at two bushels of oats per annum; and it is doubtless very wholesome and nutritious.

The county contains by the Population Act about 28,000 families; the domestic consumption of which, annually, by the above estimate, will be 7000 quarters, or the produce of 1400 acres.

The whole growth of the county under courses of crops is estimated at 30,000 acres; the produce of which, at five quarters per acre, is 150,000 quarters—SEE CONSUMPTION OF OATS, UNDER THE ARTICLE, HORSES. I suppose the growth of oats in the county is not greater than its consumption.

SECT. VIII.—PEASE.

THE growth of pease in the county is not considerable; by much the least of any grain or pulse: I suppose the whole growth, gardens and gardeners included, does not exceed 2000 acres. At Queeniborough, and in the vale of Belvoir, pease are sown upon one ploughing of a clover lay or turf land; and as the drill does not do well on this land, and there is no dibbling of pease in practice here, they are consequently sown broad cast, and harrowed in; and in the common fields they are a little sown in the same course, with and instead of beans.

A small proportion of pease are sown at Dishley, and with Cooke's drill, if it be broken land. Mr. Watkinson, of Woodhouse, also sows pease, and sometimes with Cooke's drill; he prefers pease, on account of their coming off the land early, and giving time for the growth of stubble coleseed, which is eaten off in the spring early, and followed by turnips. When Cooke's drill is used for pease, every other row is omitted, and three only sown at a time, at about 18 inches distance; and when at a proper growth they are hand-hoed. No manure is used purposely for pease; they are sown early in the spring, generally in March: the sorts, a white and a blue pea for domestic use, and a gray pea for hogs. Podding for the market is seldom or never attended to by farmers, that being here the appropriate business of professional gardeners: I should reckon the produce from three to five quarters, average four quarters per acre. Horses are fond of the straw, but it is apt to give them the gripes, and therefore unwholesome for them.

SECT.

SECT. IX.—BEANS.

The county of Leicester was formerly much more famous for beans than at present. About the middle of the last century, when one-half of the county was in the common field culture, it is very probable that one-half of the land of the common field parishes was in the three-shift system of fallow, wheat, beans; this would give 40,000 acres of beans, the same quantity of wheat, and an equal quantity of fallow, supposing the practicable land of the county, as stated in Chap. i, to be 480,000 acres; but it appears from the rotation of crops, that the beans now grown in the county, do not exceed 10,000 acres.

In all the ancient accounts of the county, beans are named as one of its staple productions, but I do not think they are at all famous for them at present; indeed, I took the liberty of telling some respectable farmers, that they had lost the art of growing them; and it is very probable, that the old system of fallow every third year, with the manure of the farm returned upon the fallow, kept the land full as kindly for beans as the present system.

The soil most and best adapted for beans, is well known to be a mellow deep loam, with which Leicestershire abounds. They are now grown as usual in the few remaining open fields, after fallow wheat, either by ploughing up the stubble, sowing the beans broad cast, and harrowing them in; or, by sowing the beans on the wheat stubble, and ploughing them in; in either case, one ploughing only is necessary, and no harrowing in the latter. Rolling is, I believe, never applied to bean ground, and though they do best on rich land, they are seldom or never manured for purposely.

Beans can be drilled in by a machine only on loose ground. Mr. Rutherford, at Lord Moira's, after oats gives the oat stubble three ploughings, and drills in beans by Bailey's drill, in rows at two feet three inches; these are first horse-hoed, and afterwards well cleaned by hand; produce four quarters per acre generally, and he expects they will not be less this year, 1807, which has been peculiarly bad for beans. They were harvested in September, and the ground working for wheat to be sown by Cooke's drill.

Mr. Stone (Barrow) had 20 acres of beans dibbled in by hand, 1807, at the expense of 10s. 6d. per acre: the crop indifferent, but the land intended to be sown with wheat.

Mr. Stone's beans were set upon turf land once ploughed.

At Queeniborough, Mr. Grahame informed me, that beans are sometimes set by hand, after one ploughing of turf or clover lay, in which, the saving of seed is supposed to pay the extra labour, two to three bushels only being set, or three to four bushels sown broad cast; the bushel 34 quarts, but he supposes no advantage in the crop. I suppose the principal advantage in drilling, or dibbling, consists in the opportunity it gives of hoeing, and thereby cleaning the crop of weeds, and moulding up the roots of the plant; without which, the intent of those operations is incomplete.

At Dishley, beans have been drilled in by one of Hanford's hoppers, attached to a double furrow plough, dropping a row in every other furrow, and ploughing them in; this gives an opportunity of hand-hoeing and moulding up at pleasure by hand, but was merely meant as an experiment, as few beans are regularly grown there.

I suppose that at present more than one-half of the
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beans

beans of the county are sown broadcast, upon turf-land once ploughed, and which having lain some years is liable to throw up the perennial grasses with great luxuriance after sudden spring showers and warm weather: this has been the case this season 1807, for I found the beans in August very generally choaked up with grass and weeds, so as not to be half a crop; in many places they were mowing them green, which is never the case here when they are worth standing till ripe, and is merely done to clear the ground of rubbish. I heard some farmers observe they should not have above six or eight bushels per acre, which I attribute wholly to their bad culture. In the vale of Evesham, Worcestershire, the bean crop is this year at least double to theirs, merely from superior culture.

The harvesting of beans is in September, the produce this year from one quarter per acre to four, average but little above two quarters per acre; general average said to be four quarters per acre, the deficiency will consequently make beans scarce and dear in this county; the straw is of no use but to rot as manure, it is hardly fit for litter.

SECT. X.—VETCHES

HAVE long been cultivated in this county, but not upon a very considerable scale, the extent and excellence of the natural pastures rendering a large proportion of them the less necessary; they are universally allowed to be excellent food for horses, and in point of nutriment, when green, are believed to be much superior to green clover.

The principal object in view in their growth, is for cutting green and carrying to the stables for horses, who do well with them in the spring months, with the addition of a little corn, and thus reserve the pastures for other stock,
and

and are always in readiness for their work; as the county abounds in mowing meadows, no account is made of making them into hay, and that is very seldom the case: a few are saved for seed, perhaps sufficient for the quantity sown in the county.

They are generally sown after plowing up the stubble of some crop, most commonly wheat or oat stubble; at Dishley they have been often drilled with Cooke's drill; the time of sowing is October, but sometimes sooner, and a little later, seldom or never any sown in the spring; they are begun to mow as early in May as they are fit, and continued till going out of blossom in July, when, if any remain, they are left for seed; they are seldom here mown more than once. An acre of good vetches will last six horses a month, and they are in perfection for this use about two months, consequently, two acres is sufficient for six horses. In the autumn of 1807, vetches for sowing were sold here at from fifteen shillings to a guinea per bushel; they are sown two bushels or more per acre.

At Lord Moira's, a few vetches are grown for horses, but hay and corn given principally. Mr. Rutherford, the farming bailiff, informed me, that he had grazed off with sheep four acres of vetches in May, and planted potatoes after with the plough June 1, without muck, and that the potatoes had been a good crop.

Vetches, where the land is clean, are sometimes succeeded by turnips as a main crop, but more generally by turnips or cole for spring sheep pasture, to be followed by a green crop, and are seldom succeeded by wheat.

Upon a supposition that a horse eats $1\frac{1}{2}$ cwt. of hay per week, that is, six horses eat 9 cwt. per week, or 36 cwt. per month; this last is equal to one acre of vetches; and if hay be worth five pounds per ton, vetches as a green crop, are worth nine pounds per acre, and so in

proportion; hence it may be estimated, whether they are of most value eaten green, made into hay, or saved for seed, according to circumstances.

SECT. XI.—BUCKWHEAT

Is sown but on a very small scale, and, indeed, the land is generally of much too good a staple for this inferior plant to be attended to as an article of profitable culture; it is only adapted to light or sandy new inclosed soils, too weak for turnips, where a crop of it, ploughed in green, may increase the quantity of vegetable matter in the soil, or be occasionally, or in part, saved for a crop; its summer, or late spring culture, tends to ameliorate the soil. The only instance I met with of its growth in this county was at Lord Moira's, where it is often sown by hedge sides, upon headlands, or short land corners of turnips or cabbage land, but no farther attention paid to it; it is left to be harvested by the pheasants, for whose use it was principally intended; or, if near the buildings, it is found out and preyed upon by the poultry.

SECT. XII.—TURNIPS, AND SWEDISH TURNIPS,

MAY be included in the same Section, as they are grown exactly upon the same principle, in the same course, and with the same culture; the only difference being in point of time, in which the Swedish take the lead, being sown a little earlier. These crops are cultivated to a great extent in this county, where the oat and wheat crops, being very generally

generally grown upon one ploughing of a turf, are also generally succeeded by a green crop, most commonly turnips.

1. *Soil*.—They are grown upon all soils that are not too strong and heavy; but in general such soils here may be denominated mild friable loams, more or less tenacious, some inclining to sand, others to clay; on the former class turnips can be grown and used to the greatest advantage; the latter are more adapted to cabbages.

2. *Tillage, Manure, &c.*—The wheat or oat stubble is ploughed up before winter, cross-ploughed and harrowed down in March, and so soon as the spring seed time is over, a third ploughing is given in May; sometimes stubble cole, or early turnips, are sown upon the stubble ploughed immediately after harvest, and the produce eaten off in April; in that case, the second ploughing is only given in May, and the land may be equally forward and ameliorated from the effects of the winter crop; the land is now harrowed down level, and the manure carried on, which is town or farm-yard muck, properly reduced by fermentation, ten or twelve cart loads, near a cubic yard each in its loose state, laid on per acre, or from one to two waggon loads of lime per acre, each load from two to three tons, or sometimes both; the land has generally two more ploughings, and the sowing of Swedish turnips commences the end of May, and continues through the whole month of June. The common turnip, of all the known varieties, is sown through the month of July. In my tours through the county in 1807, I estimate, that between Leicester and Loughborough, and in many other of the best parts of the county, from two to three acres of Swedish turnips are sown for one acre of the common turnip, and probably near two acres to one the county through.

Mr. Honeyborne informed me at Dishley, that they sow the Swedish turnip upon all the ground they can get ready to sow before the middle of July, and common turnips upon the remainder; their proportion is about two acres of the former to one of the latter; they are at present all sown broadcast; have tried various modes of drilling, and particularly Bailey's system, in ridges, with horse-hoeing; but thinks too much ground is thus lost, and the crop thereby diminished; and in every mode of drilling turnips, more labour is necessary, as by the time the drill machine can be put in motion, the crop may be sown the usual way; and Mr. Honeyborne being a good deal engaged at that season in the ram business, and generally just then making his annual excursion to Ireland, is obliged to leave the turnip-sowing to servants, or believes, if he could attend to it himself, he should make more comparative experiments, by sowing part of his crop with the drill.

Upon Mr. Stone's sheep farm, at Barrow, are many acres of Swedish turnips, cabbages, and cole, both summer and stubble sown, but no common turnips. The Swedish here are sown broadcast, and in general throughout the county turnips are sown broadcast, but with a few exceptions.

At Lord Moira's, the whole crop is drilled, both common and Swedish, upon Bailey's system; the ground is well worked, harrowed down level and limed, and the lime well harrowed in; and when sufficiently cleaned and pulverized, and the sowing season, as above, being arrived, it is stricken into one bout ridges; the muck-cart follows, and muck is trailed along the hollows, between the ridges; a plough follows the muck-cart, and turns a furrow each way upon the muck; the drill-machine is then applied, preceded by a roller, which presses down two ridges,

ridges, and the machine deposits a row of turnip-seed along the middle of each ridge, just over the muck, which are from two foot to two foot three inches asunder, from middle to middle; all the operations should go on at once that the seed may be drilled upon the fresh soil, and being just over the manure, a quick vegetation takes place, and with this management the crop scarcely ever fails. About $1\frac{1}{2}$ lb. of common, and two pounds of Swedish turnip-seed, is used per acre, which is about the quantity generally sown broadcast: the rows are horse-hoed, and occasionally the splitting horse-hoe is applied, which lowers the ridges by bestriding the plants. SEE IMPLEMENTS, CHAP. V. The plants are thinned in the rows by hand-hoeing, which goes off light, as the business of cleaning the crop is much facilitated by the hoe-plough; the crop is also hand-weeded if necessary.

That more skill, ingenuity, and system, are thus displayed than in common broadcast sowing cannot be denied, and near 30 acres are annually thus managed; and Mr. Rutherford, the farm-bailiff, intends to persist in this method, and when the workmen are used to it the work goes on as regularly and with as little difficulty as the common method; but I am not sure that any advantage attends it, or that the crops thus cultivated, and which were shewn to me, are any better than the average crops of the county; but the turnips are generally well managed, and twice hoed and hand-weeded, if necessary; first hoeing, 5s. per acre, and beer; second hoeing, 2s. 6d. to 3s. and the hoeing well understood.

When the weather is too wet to go on with turnip-hoeing generally, Mr. Marshall properly advises, sooner than let the workmen stand still, to let them go over the field, and thin the clusters, if such there be, and they will have less trouble with them afterwards.

Sowing troughs, for sowing turnip-seed by hand, worked by one or two persons, have been used in Staffordshire with success, but only partially adopted; and I was not informed, and unluckily forgot to enquire, whether they have been used in Leicestershire.

The principal Leicestershire farmers are very particular in the choice and selection of their turnip-seed, both common and Swedish. At Dishley they have long been famous for saving the seed of the latter, by selecting the best formed roots, and thus improving the species; and it is very probable, that a new and improved variety might be raised by planting for seed a few of the best formed roots of the Swedish amongst the best English sorts, as the Norfolk white, or tankard turnip, and as soon as the flowers of the Swedish open, snip off with a fine pair of scissors the anthers, leaving the stigma's to be impregnated by the English plants, by which means a new variety might be produced, having the shape and form of the English male, and the hardiness and qualities of the Swedish female, by which they were produced.

It is well known that turnips, both the common and Swedish kinds, are a very tender and casualty plant, in the early stages of their growth, liable to be preyed upon and destroyed by myriads of insects, almost too small for observation; or to be injured by unkindly seasons, excess of either drought or moisture being alike pernicious to them, so that they are very uncertain of coming to a crop, and it requires the best managed cultivation to give them a fair chance of success; it is certainly the best management to sow them every day upon the fresh soil after the plough, by which means a quick vegetation takes place; and some have spurted the seed, by soaking it before sowing, to promote this object; which method Dr. Darwin advises more attention to. The land should be
finely

finely pulverized and well manured to push their growth, as when they get into the second or rough leaf they are generally considered to be out of danger.

The insects by which turnips are preyed upon, and injured or destroyed, have engaged the attention of the more curious farmers. Mr. Marshall, who appears to be accurate as a naturalist, has stated the mischief to be done by different species of insects; 1, the turnip beetle (*chrysomela nemorum*). This is, I believe, the most common. It has wings two, covered by two shells, colour dark chocolate, with a yellow line on each shell; legs six, black, 2 hind ones thick, skippers, fly when much disturbed, and are soon out of sight; length one-half a line, or one-twentieth of an inch (Berkenhout); length of the body and head one-twelfth to one-tenth of an inch, and breadth about half its length (Marshall).

2. The turnip alphis (*aphis brassicæ*) in its animalculæ state extremely minute, fifty or more beneath one pair of seedling leaves of a young turnip-plant; in its fly-state with four wings, two long and two short, body black, size of a grain of mustard-seed, extremely prolific, ten generations produced in one season, and each successive generation beginning to breed at ten or twelve days old; first generation oviparous, hatched by the sun; the succeeding ones, except the last, viviparous, and fifty, on an average, produced at a time; so that the produce of a single fly in a season is $50+50+50$ to the tenth power, which amounts to countless millions. Dr. Darwin believes this species to be so wonderful in their increase, that, from their immense numbers, they may, in process of time, destroy the vegetable world.

3. *Turnip tentredo*. I believe the *tentredo rustica* of Linnæus, less frequent on turnips than the former, common on willows; and when they increase beyond the usual numbers,

numbers, resort to turnip-fields: great ravages were committed on turnips by the caterpillar of this fly in the summer (I think) of 1785. After hot weather they attacked the turnip plants when full half grown, perforated the leaves into net-work, and did not finally disappear till the frost set in, but have not, to my knowledge, been formidable since: many farmers were alarmed, thinking a new enemy to the turnip crop had appeared. I suppose some circumstances in the weather had that year been very favourable to their increase, but that their progeny was prematurely destroyed by the frost.

4. Slugs, or snails, are said to be injurious, and sometimes destructive to a turnip crop. Mr. Vagg's grand secret of night-rolling is now well known, and still recommended by some persons, as tending to squeeze and destroy injurious insects better than rolling in the day-time.

To prevent or destroy other insects lime has a good effect; and Dr. Withering recommends strewing the ground with soot, or whipping the growing plants with green boughs of elder; or drawing such boughs over the growing plants, to keep off insects.

Dr. Darwin is of opinion, or at least thinks it probable, that if infusions were made in hot water, or for a longer time in cold water, of those leaves which no insects devour, as of walnut, laurel, fox-glove, henbane, hounds tongue, ragwort, or tobacco, and were sprinkled on the ground just after the young plants spring up, it might prevent, or destroy insects, without injuring the crop; this, however, can be practiced but on a small scale.

Ducks have been employed in large droves, and with success, in devouring the tenthredo caterpillar; they should be pent up all night, and driven early in the morning fasting into the midst of the turnip field, when they will set to work, and fill their craws as full as they will hold; this
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should be repeated daily till the field is cleared. They will also devour slugs and worms; but as the number kept must of course be limited, their use, in this respect, is necessarily confined to a moderate compass.

The following means of preventing the depredations of the fly on turnips has been practiced with success in another county, and is already before the Board; but as the importance of the subject is such that it cannot be too generally known, or too often repeated, I shall beg leave to insert it in this place, in hopes that its efficacy may be fully ascertained; it is principally directed to the turnip beetle before described.

As prevention is better than cure, the process begins with the following preparation of the seed; mix an ounce of flour of sulphur with every pound of turnip-seed, at least twenty-four hours before sowing; sow two quarts, or four pounds of seed to an acre regularly and well, and so as to cover the ground all over without vacancies; then look over the ground once or twice a day for the fly, if with a microscope the better. If the fly be discovered immediately harrow, if not harrow in time to thin the crop, and cross harrow till thin enough for hoeing. If the fly comes or continues, then sow eight bushels per acre of dry lime, or dry sifted fine ashes; and at all events hoe in time, and repeat the hoeing if necessary; the sowing of lime or ashes should be done early in the morning, or late in the evening when the dew is fallen, as it then better adheres to the leaves; a crop thus managed has never been known to fail; but the author of it says, if people will not be at the trouble they must take their chance. He expects, and I think is entitled to some public remuneration, if the remedy should be proved never failing. It is very probable that soot, as a top-dressing, might answer equally well with lime or ashes.

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The author of the method observes, that the fly is not fond of being often disturbed; and thinks the various operations of harrowing and hoeing have a tendency to drive it, if the smell of the sulphur should not prevent its appearance; but at all events the top dressing, after it having been frequently disturbed, will expel it from the field. This remedy is given with great confidence, and its efficacy well attested.

The hoeing of turnips is here well understood and managed. Mr. Marshall says, the first turnip hoe-ers that appeared in this county were sent by the Marquis Townshend, from Norfolk, to the neighbourhood of Tamworth; it is now understood by every good labourer.

With regard to the mode of consumption, they are various; some are fed on the land by hurdling sheep; and where the ground is not dry enough for that method, they are drawn or carried off to grass-land, and a small proportion are drawn off to stalls. The effects of frost are less felt than formerly, as the early sowing is very generally Swedish, which are nearly first proof; and the late sowing preserving their succulence and their tops green and fresh, are more protected, and less liable to be injured by frost; no modes of preservation are resorted to that I heard of, nor any considerable quantity drawn before hand against frost. When they cannot be come at for frost and snow, hay and cabbages are resorted to. The common turnips are eaten first, and the Swedish towards spring; these latter washed and sliced are a favourite food for rams and other choice sheep stock, and might be given with advantage to any kind of stock, not excepting horses.

Respecting their value, I believe from three to five pounds per acre is as much as a crop can be sold for to eat on the premises; but they are more generally cultivated by persons who consume them with their own stock.

SECT. XIII.—COLESEED OR RAPE,

Is cultivated upon different soils, but supposed adapted for stronger land than turnips can be grown on to advantage; it is grown in different ways. 1. Summer cole, the tillage and manure the same as for turnips; time of sowing soon after Midsummer; it is never sown here for the seed, but universally for feeding sheep, for which purpose, it is supposed to be much more nutritious than turnips. I have heard experienced persons assert, that the keep of feeding sheep in coleseed was worth double per week to what it was in common turnips; but Swedish turnips are, I believe, reckoned equally nutritious with coleseed; it is generally eaten in the autumn, or the beginning of winter, and is used in two ways; first, by folding sheep upon it in hurdles. Mr. Stone, of Barrow, had begun in October 1807 to eat his summer cole, by folding ram lambs upon it, ten in a pen of seven hurdles square; this pen would contain about the sixteenth of an acre, and the shepherd expected it would serve them one week; as this is prime keep, 6d. per week each young ram is not too much, at which rate the value of the crop is 4l. per acre. The shepherd informed me it was intended to eat off the crop in time to sow autumn wheat.

A second method of using summer-cole is to mow it and carry it to grass-land, where it is eaten by rams, or other choice stock; and this Mr. Stone, of Knighton, informed me was his practice; he always uses it early in winter, as severe frost crackles its stalks, and he believes does it great injury, the land is thus cleared time enough to sow wheat, but I believe barley generally here succeeds.

2. Stubble

2. Stubble cole, is sown upon the ploughing up of an early stubble, generally oats; and if this can be done about the middle of August, and showers succeed, it is almost equal to summer cole. At Dishley, Mr. Honeyborne informed me, they gather and bind their oats, and set as many lands in a row as they can in shocks, and then immediately plough the cleared lands and sow coleseed, without waiting for harvesting the oats, and afterwards plough and sow the lands occupied by the shocks of oats; dispatch in this business is the great object; a day or two, if a shower occurs, being of great importance; and when the month of August is past, it is too late to sow coleseed on stubbles to any advantage. Mr. Watkinson, of Woodhouse, sows coleseed after pease upon the same principle; and Mr. Stone, of Kington, upon barley stubbles, the barley having been grown upon one ploughing of turf; stubble-cole is always saved for spring sheep pasture; and being green and succulent stands the winter frost better than summer cole; it is a good resource for ewes and lambs in April, and is always followed by a fallow for turnips, or some other green crop.

Dr. Darwin thinks coleseed might be profitably transplanted upon early stubbles ploughed, and believes it possible that some method of making the holes for the plants, might be contrived to expedite the business, by a broad wheel to be drawn by a man or horse over the ground, with prominent pegs on its periphery, two inches long and nine inches asunder, and that by raising the plants in a seed-bed and thus transplanting, a crop might be raised nearly equal to summer cole, or the same method might be applicable to other hardier species of the brassicæ tribe, which would stand a hard winter better.

SECT. XIV.—CABBAGES.

CABBAGES are considerably cultivated, and are supposed adapted to a soil somewhat stronger than is suitable for turnips; the plants are raised on garden-beds, and the seed sown at two seasons; 1. at Michaelmas, or rather sooner; these will be ready for transplanting early in the spring, and for use in autumn, or the beginning of winter. 2. In March; these may be planted out in June, and will stand the winter much better than autumn sown plants; they should be sown on a rich soil to force the plants strong and vigorous, the sort is generally the large drum-head Scotch cabbage.

The tillage is the same as for turnips, except that the land should be got forwarder for the early crop, which best succeeds turnips, or some other clean crop: when the land is well cleaned and harrowed down, it is then stricken into two-bout ridges, and the hollows between the ridges well manured with good rotten muck, and the ridges then divided by the plough, and turned upon the manure, it is now ready for planting, which is done by hand with a setting-peg; when the ridges are divided, one furrow only is turned each way upon the manure, the middle of the ridge being left to mould up the plants with the hoe-plough when they have made some progress in growth.

At Dishley, Mr. Honeyborne begins to plant cabbages in April, and continues planting to the end of June; they generally succeed an oat stubble, well worked and manured in the autumn, winter and spring; the ridges here are four feet asunder, and the early planting is two feet six inches from plant to plant in the rows, but the later planting are set closer, being two feet asunder; the number of plants upon

upon an acre is thus, 4856 to 5445, average 4900. Mr. Honeyborne reckons a good full crop to be 30 tons per acre, this is about 14 pounds each plant upon an average; but I saw many crops of less than half that weight; they are first plough-hoed, afterwards hand-hoed, and kept clean from weeds.

At Lord Moira's, cabbages are cultivated in the same manner, but the rows rather closer or nearer together. Mr. Stone, of Barrow, had several acres of cabbages similar, but the later set, not more than three feet from row to row, and they are grown in the field in most parts of the county.

Mr. Marshall states, that as long ago as 1785, Mr. Paget was in the habit of growing from 10 to 14 acres of cabbages every year, and had been for many years past; and that Mr. Bakewell was then not more celebrated for his breed of rams, than for his breed of cabbages, which were of a large green sort.

Mr. Ferriman states, that by some experiments made on sheep, it was found that cabbages did not lay on so much flesh, as an equal weight of turnips; they are however very succulent and nutritive to ewes and lambs in spring, and greatly promote the milk of cows, with this advantage, that they can be come at in frost and snow, when turnips are covered or frozen in the ground; they, as well as turnips, give a disagreeable taint to the milk and its produce, for preventing which the following is a receipt approved.

Take a quarter of a pound of saltpetre, and pour on it one gallon of boiling water, and keep it for use; to every pan of milk when set up, put in one quarter of a pint, stirring the milk; to be skimmed every meal; the butter will be freed from any taint either of cabbages or turnips.

Cabbages are supposed to be less casualty as a crop
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than turnips, and to be in less danger of being destroyed by the fly, or insects; the greatest danger they have to contend with is from drought at the time of planting, as a large quantity cannot well be watered; when the roots have taken to the ground they will do pretty well; they are generally carted off the land for use: respecting exhausting the land, I believe no green crop eaten on the premises will tend to impoverish the farm, if the crop be kept clean from weeds.

SECT. XV.—KHOL RABIE.

THIS is a new plant, of the brassicæ species, and was under trial at Dishley, October 1807; a flat of several yards square in the garden, and a patch in the field; it has a large bulb of several inches diameter on the stalk, at the upper end beneath the leaves; is sufficiently luxuriant in growth, and the whole plant has a succulent, tender, and kindly appearance, but nothing was known of its hardness or nutritive qualities.

I met with no other plant of the brassicæ or cabbage species, in field culture, in the county in 1807. Some years ago, at Dishley, they had a whole field of the borecole, or Scotch cale, which seemed very promising; but this plant has given way to Swedish turnips, whose superiority for hardness and nutriment is fully established.

I forgot to name in its proper place that, in 1807, the turnips of this county, and particularly the Swedish, were considerably injured by a mildew, in which, I believe, insects had no concern; a piece of Swedish at Dishley had not only been fretted, and the leaves discoloured, but many of the plants had perished, and left many bare patches,
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which Mr. Honeybourne assured me had been full of plants, though now occupied by chickweed and some other weeds; the crop was in October fast recovering, no particular insect had appeared on the leaves, and whether there had been worms at the roots was not ascertained; the cause was probably from the atmosphere.

SECT. XVI.—CARROTS

ARE not at present much grown in this county, in field culture; but little of the land is adapted to them, being generally too strong or loamy for their culture; they have given them up at Dishley, in favour of Swedish turnips; nor did I see or hear of a whole field in the county in 1807, though I made many inquiries: a few are grown in the field at Lord Moira's; their crop was considerably trespassed upon by the game, which, I believe, they do not consider as an unpleasant circumstance. The culture of this plant is diminished, and has given way to that of Swedish turnips.

SECT. XVII.—POTATOES.

THESE are grown in sufficient quantity for the table, as well as for live stock, and their different modes of culture well understood and successfully practiced. At Lord Moira's seven acres have been grown in a year; the usual plough culture is, after working and harrowing down the land, to strike it into one-bout ridges, then to drop the sets

sets along the hollows; cover them with muck; and the muck with soil; after the land is harrowed down the muck should be laid on in small heaps in rows; and as the one-bout ridging commences, the sets should be dropt in the hollows by women after the plough, and muck shaken in over them from the heaps by men; the sets and manure may be covered slightly with dispatch by hand-hoes, and when the plants are sufficiently above ground, they may be horse-hoed with the plough-hoe; this is the common method, but with some variations. Lord Moira's farming bailiff informed me, that he has grown four acres after vetches grazed by sheep; no manure was used for the potatoes, but the land in good heart for the vetches; they were all planted in one day, June 1st, by striking the land in one-bout ridges, dropping the sets along the hollows, and covering them with soil without manuring; they were afterwards horse-hoed and kept clean, and produced a good crop. At Dishley, some years ago, I have seen a whole field plough-hoed, and managed in a similar stile to the above, but they have now contracted their culture of potatoes.

In the neighbourhood of towns, and to supply the markets, potatoes are often planted after digging and manuring the land, by a setting-peg, and the sets dropped into a hole, and raked over; and in this way they succeed and answer well upon a small scale; they are also planted by trenching with a spade; upon this system the land should be first ploughed, and manured in small heaps; a trench is then dug across the furrows, and sets dropped in the trench, and muck shaken in over the sets; a second trench parallel, and nearly close to the former, is then dug across, the soil from which covers and fills up the former, and so in succession; this trenching costs about half the price of digging, and leaves the rows about two feet asunder, is a

good method, and answers well ; they must afterwards be kept clean by hand-hoeing.

In Chap. XII. Sect. 2, is given, Mr. Wilkes's process for preparing between 30 and 40 acres of land (being part of the waste of Ashby Wolds,) for potatoes, without any other manure than the ashes produced by paring and burning, the operations performed by the plough being there described, need not be here repeated ; the potatoes were in four feet ridges cleaned, between lengthwise by the plough, and finished clearing in the rows by hand : Section as follows.

Mr. Wilkes was no friend to close setting of potatoes, but assured me that, upon well manured land, he could get as many or more per acre in rows three or four feet asunder than by close setting, besides the convenience of plough hoeing ; with this single row at four feet a crop was raised upon this waste land, without any other manure than itself produced, and upwards of 20 acres, to the amount of from 200 to 300 bushels per acre ; they were when I saw them in the midst of the getting up, which was done by hand-work at 30s. per acre to labourers in a body, or 1½d. per bushel to individuals joining that body, Mr. Wilkes, bailiff, had estimated the whole produce at 6000 bushels ; but from their turning out much better than expected, then believed there would be 8000 at least ; they were selling on the spot at 1s. per bushel of 80lb. weight.

Great economy was used in the potatoe settings, as potatoe were, in the spring of that year, extremely scarce and dear ; the sets were scooped out by a cutting instrument, or scooper made on purpose, which took out the eye or sprout, with about half an inch of the flesh of the potatoe adhering to it, leaving the rest for use, and thus wasting very little of the potatoe ; these remains of the potatoe were

Planing



May state Section?

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Water ridge Section?



were bought up with avidity, after parting with their sets at 2s. per bushell, being less than half the full price.

But greater economy still was put in practice; the sprouts were stripped from the potatoes in large quantities and planted, and the roots thus preserved whole for use; these sprouts were placed as above against the first furrow, and a second furrow returned against them, and the crop has succeeded equally well; even potatoes were stripped of their sprouts, and put in heaps to sprout again, and these second shoots planted with equal success; the bailiff informed me that, by this second process, the roots were somewhat injured in quality; Mr. Wilkes persuaded his labourers' wives to peel their potatoes rather thicker than usual, particularly against the shooting eyes, and to cut these eyes out of the peel and plant them, and this was done with success, and the crop equally productive with that from common sets.

It must be admitted, that such economy is not always necessary, though it was upon this occasion, and may be again; it is here recorded for future occasional use, and to show the resources of a strong mind, bent upon its object.

In 1807, were a good many patches of potatoes of promising appearance upon the new inclosed Wolds; upon a former visit to Leicestershire in October, Mr. Watkinson, of Woodhouse, informed me that they were so plentifully cultivated there (a populous neighbourhood), that they were then selling at from 14d. to 16d. per bushel; these examples are quoted merely to show, that potatoes are plentifully cultivated in this county.—The disease in potatoes, called the curl, is now very happily extinct, and is known to have been caused, by the particular variety being worn out, by long continued lateral reproduction, which being but elongations of the original plant of that sort, must, in length of time, perish from age; the remedy

by sexual reproduction of new varieties has been successful, and plenty of healthy varieties are now in culture. The curl in potatoes, as well as the canker in fruit trees, are hereditary diseases, and show that the original plant, with all its lateral reproductions, are worn out from age; new varieties of potatoes raised from seedlings do not blossom for some years, which is analogous to fruit trees raised from the pippin or kernel. Dr. Darwin suspected from some analogies in vegetation, that pinching of the flowers of potatoes two or three times as they are reproduced, and thus destroying their tendency to sexual reproduction, might increase the size or number of their roots, by increasing the tendency to lateral reproduction, which has been in part proved by experiment, and is deserving of further attention; also if the bulbous roots be carefully taken away early, and the operation frequently repeated, disturbing the plant as little as may be, it will tend to force the seed in the flower, as by destroying one mode of reproduction, an effort of nature is directed to another.

The method of storing potatoes is well known to every labourer, and is best in piles or heaps of three to four feet wide, and a little within the ground on a dry spot, with straw laid under them, and piled as high as they will lie, then covered with straw, and soil at least nine inches thick, battled close and even on the outside with a spade, and finished in a ridge; they should be put together dry, and if severe frost comes on, it is a good way to cover the heap with littery horse-muck, which will secure them from frost; they will also keep well in a warm cellar, but are liable to sprout and exhaust themselves sooner than in the former method.

The uses of potatoes as food for mankind are well known; and they are so important a part of the subsistence

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of a labourer's family, and so wholesome and generally acceptable to children, that nothing but the greatest cruelty and absurdity in our rural economy can prevent (and nothing ought to prevent,) every industrious labourer resident in the country from having as much land for potatoes as he can well cultivate, without losing his daily labour, which ought to be as much as will produce a peck a week for his family, and twice the quantity for his pig, making in all about 40 bushels per annum, which may be grown upon one-eighth of an acre, in the rotation of potatoes and wheat alternately, which, with other vegetables, would require at least one-third of an acre; and this quantity of land at least ought to be laid to every country cottage, at the same rent it is worth for agricultural uses; which would, perhaps, be the cheapest and best relief that can be given to the poor in the country.

Potatoes are generally taken up by hand with a three-tined fork, and they cannot be done so well in any other way; the small and bruised ones are then picked out for hogs; the very large produce per acre is, I fear, oftener talked of than realized, it is generally from 200 to 400 bushels per acre, the latter a great crop; the price varies greatly with the plenty or scarcity, from 1s. to 4s. per bushel, average about 2s.; when cheap and in abundance, they are given to all sorts of stock, and their nutritive qualities are well known: Dr. Darwin says potatoes which have undergone a certain degree of heat, contribute more to fatten animals, because the acrimony of their rinds is destroyed by the heat, and their austere juices converted into mucilage, supposes them best boiled in steam: however to fatten hogs kindly, they require the addition of a little barley flour. Mr. Ainsworth says, nothing yet found out exceeds potatoes boiled in steam, for all sorts of stock

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in winter, horses not excepted; but boiling in steam for stock is, I believe, not much practised.

Dr. Darwin thinks potatoes should not be planted from the refuse, but from the best shaped, if not the largest roots, and he supposes them better planted in drills than in holes.

Whether potatoes exhaust or improve the land they grow upon, depends upon whether they are or not kept clean from weeds, and particularly from couch-grass; if the land be kept perfectly clean, no crop leaves it kindlier or mellow; but if it abounds in couch, it is very difficult, and, perhaps, not possible to prevent its increase amongst potatoes, and then the couch exhausts the land, not the potatoes; they should therefore never be planted on couchy land, until the couch be destroyed. Potatoes are sometimes succeeded by wheat; and if the land be clean, either wheat or vetches follow them with great propriety, if not, they are properly followed by a cleaning green crop: no modes of preserving them beyond the season are in use, nor are they used in bread, except in times of great scarcity.

SECT. XVIII.—CLOVER, RED AND WHITE, TREFOIL, AND RAY-GRASS.

THESE may be treated of together, as their culture is the same; they are sown to lay down tillage land to pasture; and very seldom in this county with any other view, and are almost universally sown either with barley in the spring, which barley has succeeded either a fallow or a cleaning green crop; or they are sown with spring wheat, or amongst autumn wheat in the spring, which wheat has succeeded fallow or turnips; no manure is particularly laid on for

these seeds, but with some crop in the course of the tillage.

As these seeds are generally sown with a view to pasture, it has been found that their growth is very much promoted, by giving the land a good liming, with the green crop or fallow, which precedes the crop they are sown with; from four to six tons of lime then laid on per acre, scarcely ever fails to force a good crop of seeds; and the seeds being grazed for some years, by the pasture it affords, increases and improves the staple of the land: the quantity sown, when intended for pasture, is, or should be per acre, 10 or 12 pounds of red clover, six or eight of white, about four of trefoil, and one or two pecks of ray-grass; sometimes the trefoil is omitted; and on some strong rich loams the ray-grass also, the natural produce being thought better; when land is intended to lay but one year, red clover alone is sown 10 or 12 lb. per acre, or with a peck of ray-grass; it is then generally mown for horse fodder, and then let lay for aftermath, which being used by carting to the stable, or grazing down, the land is then ploughed and sowed with wheat; but this practice extends but to a small proportion of land.

Sometimes the first year's clover is grazed to the end of May, and then the hassocks mown, if such there be; the field dressed over and reserved for seed; but this also is rarely the case, it is more commonly a crop of mixed seeds, mown or grazed the first year, and kept in pasture several years afterwards; if broke up soon, red clover is reckoned the best preparation for wheat; white clover is generally, or always sown in laying land to pasture; for though good sound loams throw it up naturally, yet not so early or luxuriant as when cultivated.

Respecting land being tired of clover, it is not understood to be the case in Leicestershire, where the enclosed land

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land is seldom or never exhausted by hard tillage, and has sufficient rest under pasture; land tired of clover is too often exhausted by tillage; and laid down in an unimproved state, and will seldom occur if a good liming be given at the end of a tillage, and the land be laid down clean; if the seeds should by chance fail, the remedy is to plough up the stubble and sow vetches, followed by a green crop, manured for, and then barley and seeds again.

Trefoil.—The seed sold in the market is commonly the *medicago lupulina*; but I have seen in the markets, and even bought and used the hop trefoil, *Trifolium agrarium*; they are both annual plants, and cut but a poor figure in the aftermath, and if they continue in the ground, it is from shedding their seeds; though I believe after top-dressing land, they sometimes shoot from fibres of roots remaining in the soil; they are never sown here unless with clover, and consequently take the same rotation, being mown or grazed with the clover, and generally disappear as the turf strengthens, after the first and second year.

Ray-grass is never sown here alone, but with the seeds beforementioned; it is adapted for poor or cold land, but flourishes well and early in the spring on good land; and from its earliness has been thought of considerable value, but is not supposed good enough for the richest and best loams, nor equal to the spontaneous produce; it is grazed or mown with the clover it is sown with, and remains some years in the ground; but the natural grasses soon push amongst it, and after a few years it remains but slightly mixed with the rest, and is ploughed up with them most commonly for oats, but sometimes for wheat, beans, or other crop.

SECT. XIX.—SAINTFOIN, LUCERNE, CHICORY,
BURNET, &c.

SAINTFOIN is not, to my knowledge, at all cultivated in this county; very little of the land is adapted to it; though, in case of the enclosure of Charnwood forest, I am of opinion it may be grown to advantage on some of the stony hills of that district. Respecting the cultivation of lucerne, the growth of vetches makes it less necessary, but it has the advantage over vetches of lasting many years, and being equally productive and nutritious, but is inferior to vetches in the simplicity of its culture, as it requires a good deal of care and attention for the first and second year, after which it will maintain itself, and be equally productive with vetches for many years: the only instance I met with of its culture was at Lord Moira's, where Mr. Rutherford had drilled in with Cooke's drill, 20lb. of the seed upon an acre, between the rows of barley, laid in by the same machine at 12 inches distant; the lucerne was drilled in after the barley was up, and appeared very regular and promising, and the barley stubble clean from weeds. I think this bids fair to be a very simple and successful method of cultivating this valuable plant, as I know it is in vain to sow it broadcast; it must be hoed and cultured till it is got a head; and in this method, on a clean barley stubble, it may be hoed and cleaned the winter and spring following, and the next summer it will come to a crop, and require little farther care, except cutting and carrying home for use, and will probably remain in perfection seven or eight years or more.

Chicory is not cultivated at present in the county; it has been tried at Dishley, but not being thought good enough

enough, is now left off and neglected; it is rarely to be found spontaneous in the county, the only instance I recollect of meeting with it was between Harborough and Hallaton.

Burnet has been rarely, and but little cultivated; it has been lately sown at Dishley in small quantities, mixed with clover and other seeds, merely by way of experiment, as Mr. Honeyborne told me they were not much acquainted with it; it will have no great effect there in the quantity sown, the soil being but little adapted for it; its natural growth is upon chalky limestone, or calcareous soils; it will sustain the severest drought, having a long tap-root, which finds its way through almost any obstruction to a considerable depth; it will continue and establish itself upon the dryest and barrenest gravels, amongst furze or other rubbishy growth, as I know by experience, having sown it 20 years ago in such a situation where it still remains; it is common naturally in the vale of Belvoir, and on some other calcareous soils in this county: I think it more adapted for cattle than sheep, as the former eat it freely; is a very different plant to the meadow *Burnet*; it grows naturally in Lord Winchilsea's court-yard at Burley, Rutlandshire, and amongst rubbishy growth, on some of the commons of that county.

Hemp and Flax are but little grown in this county, and that only in small flats or patches, therefore no experimental information is to be obtained here, concerning the cultivation and management of these plants.

SECT. XX.—WEEDS AND WEEDING.

THE injury sustained from weeds on cultivated land, is certainly of that importance as to demand a separate section

section, though not exactly within the plan pointed out by the Board; but the attention of the farmer cannot be too much called to the most pernicious, and to the best means of preventing or destroying them, more especially when it is considered, that the weeds prevailing in pastures, on heaps of compost, hedge sides, amongst beans, and in other crops, is the most prominent defect, and neglect, of Leicestershire agriculture.

The couch grasses are the bane of arable crops, not that I observed that they are more common here than elsewhere; on the contrary, I think they are more prevalent on lighter, hard tilled land; but they are to be found here of several sorts, as the Dog's couch-grass (*Triticum repens*); the benty couch-grass (*agrostis vulgaris*); the knobby rooted couch-grass (*avena elatior*); and Mr. Marshall has ranked the hard fescue (*festuca duriuscula*), and the creeping soft grass (*holcus mollis*), and I believe justly amongst the worst couch-grasses, and they are common in this county.

An early well-managed fallow, either for grain or a green crop, is the only method of destroying couch grass; the ground should be cross-ploughed and harrowed down in March, the same operations repeated in May, and again in June, when if they be effectually and well performed in dry weather, the couch-grass will be generally destroyed. I have found it a very good practice, to mix couch-grass, or other roots or stalks of weeds, with quick lime in quantity sufficient to slack the lime; when the whole will fall together into a rich dark-coloured powder, and if the weeds are ready in a heap near where the lime is unloaded, very little trouble attends it.

The other root weeds to be destroyed in a fallow, are common, or curled dock (*rumex crispus*); should be carried off the land, and thrown in a heap to rot, or burnt,

or

or mixed with quick-lime, as it will not perish by common exposure to the sun and air.

Common thistle (*serratula arvensis*), and spear thistle (*carduus lanceolatus*), will perish by exposure, but are best thrown amongst quick-lime.

The following seedling weeds were particularly complained of at Dishley; chickweed (*alsine media*) promoted by a fine tilth, the seed being thus let loose from clods; to prevent it, the turnip fallow should be got forward very early in the season, and should lay some time to purge itself of seedlings before the last ploughing; and then being ploughed up and sown, it will harrow rather knobby, and not to dust; and will not be so prone to chickweed as though two or three ploughings were just then given; in some places the land is given to produce the ivy-leaved chickweed (*veronica hedere folia*), which may be discouraged in the same manner.

The fat hen, or wild spinach (*chenopodium viride*); the willow-weed (*polygonum persicaria*); Bird's lake-weed (*polygonum aviculare*), and shepherd's purse (*thlaspi campestre & bursa pastoris*), are also common on that farm; they are all hardy annuals, extremely prolific in seeds; to prevent their growth in crops, the turnip fallow should be pulverized early by ploughing and harrowing, and then let lay for showers to vegetate the seeds; then harrow again repeatedly, and at length plough to expose a fresh surface, and fresh soil, to the sun, air, and showers; when this begins to vegetate, harrow and pulverize, and let it lay for showers, and by degrees, and repeating the operations, most of the seeds in the soil may be expected to vegetate, and may then be destroyed before sowing the crop.

In all cases root weeds are best destroyed in dry weather, and seedlings in showers; when a fallow is cross ploughed it should lay in its rough state till it begins to grow, which is

is the signal for applying the harrows; which should be used till the soil be worked down level, and the couch within the effect of the harrow teeth fetched out, which should be spread abroad, or burnt, or mixed with quicklime; but in hot dry weather it will perish when loosened from the soil by spreading it to the sun and air; when the soil harrowed down begins to produce fresh shoot of grass, a good ploughing should be directly given, in dry weather, which, with harrowing, will generally be fatal to the root weeds, whose destruction may be completed by the ploughings and harrowings afterwards given, to expose and destroy the seedling weeds; hence then the necessity of summer fallows, or fallows for green crops, to purge the land of weeds; as the fallow for a green crop must terminate soon after Midsummer, it is necessary to commence with it early in the spring, to give time for vegetation, between the different operations.

When land has been once well cleared and purged from weeds, the management of future fallowing will not be so laborious and difficult; but it will still be necessary, at intervals, to keep the land clean, for the couch-grasses will be reproduced, from the remains of living fibres recovering by degrees, and they cannot be kept under but by summer tillage; it is in vain to attempt destroying them by hand-hoeing or weeding, they are too firmly riveted in the ground, and breaking their roots only makes them push out fresh shoots with greater effort; in gardens they are forked out by hand, but this cannot be done in field culture; were it not for weeds, summer fallowing would be unnecessary. Dr. Darwin has observed, that a summer fallow may be an advantage to a poor soil, that has nothing to lose, but, the contrary, to a rich soil, which has nothing to gain; it is however necessary on all soils as a kind of wholesale destruction of weeds; and it may be deemed fortunate

fortunate that the introduction of the different varieties of green crops, has superseded the necessity of barren fallows on almost all sorts of land.

The other most pernicious seedling weeds, that I observed in this county, were as follows:

Chadlock, in three distinct plants; wild mustard (*sinapis arvensis*); wild rape (*brassica napus*); and wild radish (*Raphanus raphanistrum*).

Corn chamomile (*anthemis arvensis*), in corn and bean crops.

Corn marigold, goldings (*chrysanthemum segetum*), in barley and turnip crops.

Corn crowfoot, hungerweed (*ranunculus arvensis*), very abundant in a wheat crop near Shilton; these plants, if not extirpated in the fallow, should be hoed, or hand-weeded out of the crop, as they are very abundant seeders; and if the seed be suffered to shed on the ground, the work of cleaning goes worse instead of better, as every plant will shed seed enough to increase its species some hundred fold, and will vegetate after laying in the ground many years.

The most pernicious weeds prevalent in bean crops, after the choke of grass and couch roots, were corn chamomile, as above; also the common thistle (*serratula arvensis*); sowthistles of two kinds, with white and yellow blossoms (*sonchus arvensis*, & *oleraceus*); these are hardy perennials, and will grow by the roots, which should therefore be destroyed in the fallow; but they are also productive in seeds, which seeds are furnished with wings to fly, and were flying from many bean crops, to all over the country in August 1807; this is a public nuisance, and ought to be noticed as such; these weeds ought to be hoed or cut out of every crop, and never suffered to perfect their seeds, as it tends to foul not only the field they grow

grow in, but the whole country; and as the bean crops of this county seem addicted to these pernicious weeds, they ought never to be sown at all upon foul turf land, as oats would smother such weeds much better. If beans are grown after turf, they ought to be set by hand in rows, and every weed extirpated by the hoe or by hand, they would then produce double the crop of 1807; or if they are grown on broken ground, they should be drilled at two feet three inches, and may then be plough-hoed; but the foulness of the bean crop of that season was certainly a disgrace to the cultivators, as well as a loss to the country.

Other corn weeds of this county of less import, are dee nettle, or nettle hemp (*galeopsis tetralix*); white dee nettle (*lamium alba*); bindweed (*convolvulus arvensis*); bearbind (*polygonum convolvulus*); shepherd's needle (*scandix pecten*); corn scabious, or blue button (*scabiosa arvensis*); knapweed, or blue bottles (*centaurea cyanus*, & *scabiosa*); and coltsfoot (*tussilago farfara*); as these are all injurious to a crop, and propagate themselves if neglected, they ought to be either destroyed in the fallow, or weeded out of the crop.

I also observed in corn fields and fallows, the greater daisy or white marigold (*chrysanthemum leucanthemum*); groundsell (*senecio vulgaris*); scorpion-grass (*myosotis scorpioides*); goose tansy (*potentilla anserina*); and Mr. Marshall has enumerated as corn weeds of this district in addition, corn mint (*mentha arvensis*); tares, two and four seeded (*erctums hirsutum* & *tetraspermum*); these cannot be weeded out, and should therefore be destroyed in the fallows, and care should be taken not to sow them; also corn goosegrass, or cleavers (*galium spurium*); nettles (*urtica dioica*); poppy (*papaver dubium*); cockle (*agrostemma githago*); care should be taken not to sow this weed, and few others are enumerated of less import, and

the necessity of occasional fallows for preventing them, and of hoeing and hand-weeding, for their extirpation must be very obvious.

The weeds in hedges, on road sides, and heaps of compost, are a very great pest to the agriculture of this district: the most pernicious of the former class, are the common and spear thistle; these, in many situations, are suffered to grow with the greatest luxuriance, to ripen their seeds and disperse them over the country with the wind; they ought always to be cut up, either at public or private expense, before seeding; the same are also often suffered to flourish on soil thrown out of ditches, and meant for compost, as well as on compost heaps; with the addition of wild spinach or goose-foot (*chenopodiums album & viride*); willow-weeds or lake-weeds (*polygonums* of sorts); ragwort (*senecio Jacobæa*); flixweed (*sysimbrium sophia*); and nettles, as well as many others; these being generally prolific in seeds, foul the manure, and the land it is laid on, so that the dressing may do as much harm as good; weeds on compost should be always mown before seeding, if the heap cannot be turned over; or if the growing weeds were smothered with fresh muck, or soil, or lime, spread over the heap, they would add to the value of the manure, instead of fouling it, and the country with their seeds.

Weeds on pasture land, docks and thistles, both the common and spear thistle, are often suffered to grow unmolested in pastures, and to ripen and disperse their seeds; the former indeed seldom go farther than the pasture, where they are trod in and planted by the feet of cattle; the latter fly over the whole country. Docks should certainly be rooted up by docking irons, or drawn by hand after soaking rain, and may by perseverance in those methods be weakened, and by degrees destroyed in any pasture,

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In parks they are destroyed by the biting of the deer, but no other live stock will graze them; the spear-thistle should be rooted up the same as the dock, and the common thistle cut off within the ground, by which means they may be in time destroyed; mowing with a scythe is better than nothing, as it prevents their seeding, but they are not thus cut low enough for their extirpation. I have often thought, and think still, that the seeds of the flying weeds, being of the nature of a public nuisance, are, or ought to be, indictable at common law, and are worthy the attention of the police of the country. Mr. Marshall thinks an indictment at the court-leet might be preferred for such a nuisance, and matters of less importance have engaged the attention of the legislature.

The other most prominent weeds, and plants on grass-land, which it would be desirable to extirpate, are principally as follows:

Rushes (*juncus effusus*); sedge grasses (*Carex*'s); tussock grass (*aira cæspitosa*); horse-tail (*equisetum palustre*); these will generally give way to draining and top-dressing.

On many neglected old pastures, are too often to be found, bushes of haw-thorn, sloe-thorn, bramble, furze or gorse; also hen-gorse, or spinous rest harrow (*ononis spinosa*); dyers' broom (*genista tinctoria*), and nettles; these should be rooted up, and carried from off the land, or burnt thereon.

The wild carrot (*daucus carota*); ragwort (*senecio Jacobææ*); goose-tansa (*potentilla anserina*); meadow knapweed (*centaurea nigra*), and some others, ought to be extirpated as weeds, which they may be by rooting up, top-dressing, and draining the land.

CHAP. VIII.

GRASS LAND.

SECT. I.—MEADOWS.

THE natural meadows on the banks of the rivers, brooks, and rivulets of this county, are very considerable in extent, and many of them of excellent quality: on the banks of the Soar, near Leicester, is a considerable tract of excellent meadow land, which seems formed by the deposition of sediment of that river, through a long course of succeeding ages; in some places large breadths are formed as level as a sheet of water, and as rich as can be conceived: this fertility is kept up by the river, by the process of natural irrigation. Excellent meadow land continues on the banks of that river, down through Quorn-don and Barrow, and to its junction with Trent; these meadows are occasionally subject to inundation, by which, their fertility is preserved, and is, perhaps, increasing; but this river having its source in a level country, without receiving any considerable supply from hills or mountains, is not very subject to sudden or summer floods. The meadows on most of the other considerable rivers are similar. Water meadows require no manure, but they are sometimes grazed. Upland meadows, where they cannot be watered, are occasionally top-dressed with dung or compost to keep them in heart. The meadows of Leicestershire may mow from one to two tons of hay per acre, and some water meadows

meadows more. The rent of meadow land attached to farms may be reckoned from £2 to £3 per acre, and that of rich meadow land in the neighbourhood of towns, from £3 to £5 per acre. The expense of hay-making depends very much upon the weather, and will vary nearly as one to two; in this business, the custom of the country makes an allowance of malt-liquor necessary, and that of a quality better than small beer; the mowers, carriers, and stackers require from four to six quarts per day each, and the hay-makers, from one quart upwards: I suppose the allowance of beer necessary, to be in value equal to half the wages. The process of hay-making is well known, and is, I believe, every where similar: after mowing, the swathes are spread over the land; in the evening it is raked into winrows, and afterwards into small cocks, which is the first day's operation; next morning the cocks are cast into staddles, or beds, and if it does not cover the whole ground they are raked between, and in the evening turned over, and afterwards put into a moderate sized cock, called quarter-cock; these are again spread the third day, and the hay turned over; and in the evening it will be ready to put into large cock for carrying to the stack: thus, in three days of good weather, the whole operation of hay-making is performed; in showery weather it will sometimes last a fortnight or more, to the great injury of the hay, and during which time the hay-makers are obliged to be kept in attendance, to take advantage of every hour of favourable weather, to prevent the hay being quite spoiled. In very favourable weather part of the above operations are sometimes omitted, and the hay carried sooner; but this should never be done, for the consequence generally is, the hay is only crisped on the outside, not thoroughly made, and will therefore over ferment, and sometimes take fire in the stack, which is often the case

from being carried in too great haste. The stack for large quantities of hay is best of an oblong form; for small quantities a round cock may do as well. An oblong stack should not exceed four yards wide in the bottom, but overhanging on the sides; should be well raked and pulled, to make it solid and compact, and when properly settled should be neatly thatched. If hay be properly made, no tunnel to discharge the vapour generated by fermentation is necessary in stacks of the above breadth; such vapour, except what escapes spontaneously, being better smothered in the stack to enrich the hay. I give the annexed as the proper section of a hay-stack when finished; it will contain from two to two and a half good wagon loads, and from one and a half to two tons of hay in every yard length; a cubic yard of hay, when settled, weighing from one hundred weight and a half to two hundred weight; and a wagon road from the field making about three-quarters of a ton of hay in the stack.

A hay stack should be well bottomed, to prevent its absorbing moisture from the earth, and well raked down before thatching, to prevent the same from the atmosphere; by neglect of which, great loss is often sustained in tops and bottoms, which, by absorbing wet, becomes mouldy far into the stack, and is fit for nothing but to rot as manure.

Respecting the expense of hay to the grower, I give the following estimate as the best I can form or procure:

	L.	S.	D.
Rent of land, per ton of hay	-	2	0 0
Mowing and beer, per ton	-	0	5 0
Making, under favourable circumstances, do.		0	5 0
Extra making on the average, from change of weather	-	0	5 0
Carrying, stacking, and thatching, per ton		0	5 0
Prime cost to the grower, per ton		3	0 0

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But to this is to be added, taxes, parliamentary and parochial, interest of capital, and the fair profit of business; also, manuring where necessary, as well as drainage; and to counterbalance some of these, comes in the aftermath.

SECT. II.—PASTURES.

IN the south and east of the county is a considerable breadth of rich old feeding land, which is often unsightly, from abounding in ant-hills; these are, however, generally removed by the neatest and best managers, but a good many still remain. Mr. Ainsworth says, the best way of removing them is, to cut them up with a two-furrow plough, drawn over the field; and ploughs have been constructed for the particular purpose: they have also, in some cases, been cut up by hand; when cut up they may be disposed of in three ways; the first is, to build them up in heaps, high and hollow, and when they are dried a little to burn them to ashes, which will make an excellent manure for the land; another method is to throw them entire into a pit of water, intermixed with dung; here the ants will soon be destroyed, and the earth and dung will make a good compost; but the third method, which Mr. Ainsworth most approves, is to mix them with quick lime, and cover them up with the same; this will destroy the ants, and make good manure for the land, and will soon many times over repay the farmer his expenses, by the improvement thus effected.

STOCK.—The general opinion and practice is, that land is best depastured by a mixed stock of sheep and cattle; the sheep bite close to the earth, prefer the young grass, and neglect the seed stem; thus making a pasture

at Midsummer; and afterwards appear what is called benty; these bents are the seed shoots of the grasses, and are a real injury; for all plants, to ripen their seeds, draw nourishment from the soil, much more than when they are in a succulent state. Cattle and the larger stock turned in, in time lick up these bents or seed shoots, with the blades of the grass, and prevent the pasture from exhausting itself by ripening seeds.

Produce in meat, per acre.—This seems very difficult to ascertain experimentally, because there are few or no instances of land being applied to one particular purpose, being generally occupied by a mixed stock, and part in tillage.

Mr. Grahame, upon a farm of 400 acres, 240 of which is grass land, reckons to sell annually to the butcher, 200 sheep, at £3; supposing the average price, sinking the offal, to be 7d. per lb. this will be 20,571 lb. of mutton bred on the farm; but as other stock is kept, particularly horses, to cultivate the farm as well as horned cattle, suppose they consume one-third of the produce of grass land, remains 160 acres for the sheep; the above quantity of mutton produced on which, is about 128 lb. per acre; but this land having been lately common field is not first rate pasture land. A flock of 100 good Leicester ewes should rear, upon the average, 120 lambs; of these, suppose 60 wethers and 60 theaves; the wether should be kept two shear, and may then average 30 lb. the quarter; of the theaves, 30 may be fatted and sold to the butcher, from 18 months to 2 years old, and 30 taken into the flock in exchange for 30 culling ewes. The annual produce of mutton may be reckoned as follows;

60 two-

60 two-shear wethers, at 120 lb. each	-	7,200 lb.
30 theaves made fat	96 do. -	2,880
30 aged ewes, do.	108 do. -	3,240
		<hr/>
		13,320
		<hr/>

The flock at shearing time would be 100 ewes, 120 shearlings, and 60 two-shear wethers, in all 280, besides 120 sucking lambs, total 400. The winter stock would be, 100 breeding ewes, 120 yearlings, shearhogs, and theaves, and 120 weanling lambs—total 340. The difficulty then is, to estimate how much land will be necessary to support and maintain this flock.

I have been shewn land of that fertility, as to have summered at the rate of 10 sheep per acre, and have examined the sheep in good condition; but they were barren theaves, or which had lost their lambs; and in that state, and from their sort, would not be great eaters. The flock at shearing time being 280, besides lambs, at four to an acre, would require 70 acres of good grass land; as the two-shear wethers go off, the lambs will begin to graze, and therefore 70 acres of pasture will be required through the summer. This turf land will winter the breeding ewes with a little assistance from green crops; but 240 lambs and shearlings will require at least 20 acres of good turnips, rape, cabbages, or Swedish; 90 acres of good land is therefore necessary to support this flock, producing 13,320 lb. of mutton, or 148 lb. per acre.

Upon some former occasions I have calculated, that 180 lb. weight, or about half a pound per day, for a year, of beef or mutton, might be produced from an acre of good grass land, which I supposed might serve one individual, but I fear so much is seldom produced. If a
bullock

bullock of 12 score per quarter, when fat, grazing upon two acres, gain one-third of his weight, or value, in 12 months, this would be 320 lb. upon two acres, or 160 lb. per acre; but this beast, in his store state, would go over more land in proportion. A Scotch or Welsh bullock of nine score per quarter, should improve one-third of his value in 12 months, upon one acre and one-third of land to equal that, or come to his full weight in four years, upon one acre. And the flock of 100 ewes, and their produce as above, should be maintained and supported upon 74 acres of land; either of which is, I believe more than can be done. It therefore seems, that from 128 to 160 lb. per acre, of beef or mutton, is as much as can be bred and fattened on good pasture land; the rent of which may be reckoned from 30s. to 40s. per acre.

Dairy grounds.—In various parts of the county good dairies are kept, the business well understood, and large quantities of cheese produced, particularly upon Lord Moira's estate to the north-west of the county, adjoining Derbyshire; also in the neighbourhood of Appleby, Snares-ton, Bosworth, and Hinckley, are dairies of from 12 to 25 cows each, universally of the long-horn breed. In the vale of Belvoir are many dairies, but the Holderness, or short-horn cattle, are kept, as well as the long-horn. A dairy-cow well managed, in Leicestershire, is reckoned to make from three hundred-weight to five hundred-weight of cheese, average four hundred-weight; but, in that case, the calf must be taken from the cow when young. A dairy-cow will require for summer and winter keeping through the whole year three acres of land; produce in cheese four hundred long weight, 480 lb. or 160 lb. per acre; to which is to be added, the calf, and pork fattened from the dairy. Four cows will in the season fat a pig to 12 score, from 40 lb. which is 50 lbs. each cow, and reckon-
ing

ing 40 lb. for the calf, makes 90 lb. each cow additional, or 30 lb. per acre, which gives 190 lb. weight per acre, of cheese or animal food, as the annual produce of dairy ground. This is superior to mutton or beef, and so it ought, as being attended with considerably more labour: rent from 30s. to 40s. per acre.

Sheep pasture.—It very seldom occurs that any pasture land is stocked with sheep alone, the general opinion and practice being in favour of a mixed stock. I reckon that an acre of good sheep pasture will summer two ewes, their lambs, and two shearlings, or older sheep; and with the addition of one-quarter of an acre of green crops winter them also. Thus, two sheep are annually bred and fatted upon one acre and a quarter, or 80 upon 50 acres. The rent of sheep pasture, as it includes no mow ground, may be reckoned 30s. per acre, besides tithes and taxes.

Laying land to grass.—This is generally done, and should be always, with the first crop after a fallow; or, which answers the same end, with the first crop after turnips; and if the land be well limed for the turnips so much the better. The turnips should be eaten off in time, to give the land two ploughings; and the barley being sown and well harrowed, or being drilled in, the grass seeds are sown afterwards in the month of April, harrowed in with light harrows, and the land afterwards rolled. If the land be too strong for turnips, a barley fallow is sometimes made; the barley sown in March or April, and the seeds afterwards as in the former case; if the barley fallow be well limed it will be much in favour of the grass seeds. If the fallow be made for wheat, it should be well limed, and the seeds sown on the wheat the beginning of April, and slightly harrowed in, and afterwards rolled.

The seeds sown upon all the light and mixed soils are,
red

red and white clover, trefoil, and ray-grass; with which the markets are well supplied, but not regularly with any other. Respecting the quantity sown per acre, the best managers sow most. I have been assured by a large grass-land farmer, that 10 lb. of red clover, 8 lb. of white, 6 lb. of trefoil, and a peck of ray-grass per acre, is not too much for land intended to turf, and that he has frequently sown that or more, and recommends it to others. About two-thirds of the quantity is, however, more commonly sown, except the ray-grass, which is never in less quantity. On strong clay loams the ray-grass is generally omitted, as being inferior to the spontaneous produce, and particularly in the vale of Belvoir, where I was well assured of an instance, in which, one farmer had laid down clean land, by sowing clover and ray-grass with his barley, whilst a neighbouring one had laid down land of inferior cleanness, with white clover alone with barley, and that the latter formed a pasture in a few years, worth 6s. or 7s. per acre per annum more than the former; this is attributed to the spontaneous produce, being much better than ray-grass, and to the ray-grass sown, interfering with or retarding the growth of such spontaneous produce. Hay seeds are sometimes sown. I visited the vale of Belvoir in a season unfavourable for ascertaining its spontaneous growth, but could distinguish the dog's-tail grass (*lynosurus cristatus*) every where, and the poas particularly the *poa annua*, very predominant, but yet in many moist hollows were plenty of hassocky grasses.

All new sown grass seeds should be tenderly grazed the first autumn after harvest; a few sheep may be turned in to pick up the straggling leaves and shoots of grass, but by no means to bite down close, so as to injure the hearts of the young clover: many pieces of seeds have been injured and even destroyed by this mismanagement. No
stock

stock whatever should be suffered in after the commencement of frost, as bruising the young plant of clover will then destroy it, as it will turn black, and perish by the frost wherever bruised by treading; it should, therefore, be carefully made up for the winter, and will then, if the ground be in good heart, very probably form an early and plentiful spring pasture, and will turn to the best account grazed by sheep; and no farther care or nursing of the young plants will be necessary.

With regard to manuring new formed grass land, it will doubtless enrich it, and strengthen the turf, to give it a top dressing of dung, compost, or other manure; but if the land be laid down clean, in good heart, and with a good previous liming, manuring the seeds will be less necessary.

Mr. Monk has reported that, Mr. Lynes, Lord Wentworth's steward, has found it answer well, to harrow old grass land, to clear it of moss and weeds, and that thereby the quality of such land has been much improved.

Breaking up grass lands.—This is not often done in Leicestershire, at least not old grass lands; the farmer is generally too fond of turf to do this if he had permission, and the covenants or customs of all occupations forbid it; it could, therefore, only be done by special agreement between the owner and occupier. Meadow land that will mow a ton of hay per acre, or more, and rich old pasture land should never be broken up; if such wants improvement, it is best done by draining, watering, and top-dressing. The opinion of the principal graziers and breeders of the county is, that rich old feeding land broken up and converted to tillage, could scarcely be brought to recover its former fertility and nutritive qualities in 40 years, and that therefore it should not be broken up on any account. I suppose, in these deep soils, the fibrous roots of the
best

best grasses, strike imperceptible small shoots to a great depth, perhaps many feet into the earth, as this land seldom or never burns up, or turns brown in the hottest or dryest summers; and that upon breaking up such land this deep communication is cut off, and is many years before it can be restored.

Mr. Ainsworth says, never plough up any pasture or meadow land for corn, whilst the present annual value is as high as can reasonably be expected from tillage. It will seldom answer where the pasture is worth more than 20s. per acre. Good sweet natural pasture is not to be equalled by any artificial grasses; cattle of all sorts prefer the former, and it is well known they improve faster on sweet natural grass, where they can have plenty, than on any other green food. When grass land is broken up it should be with a view of improving it, and there should only one course of crops be taken to reduce it to fine mould, fit to receive grass seeds. The opinion of the most eminent land occupiers here is, that if grass land be broke up, not more than one or two crops should be taken, as, oats or wheat, then turnips, if the land be proper, otherwise complete summer fallow; in either case, four to six tons of lime per acre; and then sown with wheat or barley, and the seeds before-mentioned. With this management, and draining, if wanted, the land may soon be expected to form a good pasture.—Farther particulars connected with GRASS LAND.

Stilton Cheese.—This is, I believe, the richest and highest priced thick cheese of British manufacture: it is made in most of the villages about Melton Mowbray, and sold at the principal inns in the county, to accommodate their customers. The price, like other cheese, subject to fluctuation, but seldom, I believe, so low as 1s. per lb. or more than 1s. 6d. The first cheese of this kind is said

to have been made by Mrs. Paulet, of Wimondham. The following is given as the best receipt for making it :

Take the milk of seven cows, and the cream of the same number ; heat a gallon of water scalding hot, and pour it upon three or four handfuls of marigold flowers, that have been bruised a little ; then strain it into a tub to your milk, and put some rennet to it, but not too much, to make it hard : put the curd into a sieve to drain, it must not be broke at all, but as the whey runs from it tie it up in a cloth, and let it stand half an hour or more ; then pour cold water upon it, enough to cover it, and let it stand half an hour more ; then put half of it into a vat, six inches deep, and break the top of it a little to make it join with the other ; then put the other half to it, and lay a half hundred-weight upon it, and let it stand half an hour ; then turn it and put it into the press, and turn it into clean cloths every hour the day it is made ; the next morning salt it, and let it lie in salt a night and a day ; keep it swathed tight till it begins to dry and coat, and keep it covered with a dry cloth a great while. The best time to make it is in August.

A Stilton cheese, I have been since informed in the county, weighs from seven to nine pounds, and the present price is from 1s. to 1s. 2d. per lb. The parish of Dalby, near Melton Mowbray, is said to pay its rent with this article. The price, in 1790, from the maker was 10d. per lb. from the retailer 1s ; the advance from then to the present price, therefore, seems only 2d. per lb. ; and from the receipt given, a cow's milk seems to be worth 2s. per day in making it, but a good deal of trouble to the dairy women attends it.

History of Stilton cheese.—Mrs. Paulet, the first maker, being a relation of the well known Cooper Thornhill, who kept the Bell-inn, at Stilton, on the great north road,
furnished

furnished his house with rich cheese, of a singularly fine quality, which being wished for by his customers, through the assistance of Mrs. P. they were gratified at half-a-crown a pound; but where the cheese was made was not for sometime publicly known; hence it obtained, of course, the name of Stilton cheese.

At length, however, the place of produce was discovered, and the art of making it learnt by other dairy women of the neighbourhood: Dalby first took the lead, but it is now made in most villages about Melton Mowbray; and in Rutlandshire many tons are made every year, and the sale is no longer confined to Stilton.—*Marshall*.

Mr. Ainsworth thinks, that trees, and particularly fruit trees, do no harm whatever in grass land, except that some kinds, and particularly the ash, run their roots so near the surface of the earth, as to draw from and impoverish the soil, but as cattle are fond of shade in summer to cool them, and in winter to shelter them from the storm, the land under trees is generally made by such cattle richer than the rest of the field; but fruit trees, and many others, strike their roots perpendicularly into the earth, and draw their nourishment too deep to interfere with that of the pasture; and in orchards the smaller vegetables will flourish to the very trunks of fruit trees, till they become too large. Fruit trees in hedges of pastures, or in pastures themselves, are therefore no way injurious, but the contrary, independent of the fruit they produce,

Old and new hay.—Mr. Ainsworth is of opinion, that hay is the most nutritive at one year old, for the same reason that cheese, ale, &c. is so, that is, after their juices have thoroughly fermented, and have had time to subside again; after that period all vegetable substances have a tendency to putrefaction. Horses will do more work, and with less corn, with old than with new hay, the particles
of

of old hay are more solid than those of new hay; but cattle prefer new to old hay, the latter being too warm for their stomachs.

Heavy and light stocking.—Mr. Ainsworth thinks, heavy stocking and change of pasture, is to be preferred to light stocking in the same pasture; for all animals, as well as men, delight in change and variety: being confined too long to one pasture, their breath, as well as their feet, taints the grass, and make it disagreeable to them; but by taking them out at intervals, there is time given for the atmosphere, as well as the dews and showers, to sweeten and refresh it.

The best old pastures of Leicestershire consist principally of grasses, with few *Diadelphia* plants; even the white clover but slightly appearing as the turf becomes strong and full. I observed an abundance of the dog's-tail grass (*cynosurus cristatus*) in many of the best feeding pastures.

In the vale of Trent, upon the estate of the Earl of Moira, and elsewhere, are considerable patches of reeds (*arundo phragmites*); they are equally valuable with good meadow land, being sold to the builders to lay under plaster floors. They are also more durable than straw, for thatching, and make screens to keep off the cold wind in gardens; and are, I believe, good food for horses, cut green and carried to the stable. The pannicks are used in Sweden, to dye woollen green.

When hassocky grass, growing in the shade or in a wet season, becomes coarse and sour, and is refused by cattle, it should be mown; and as it begins to wither, the second or third day cattle will freely eat it, and do well with it. This has been proved by experiment, and is an advantageous practice; and should be applied to all coarse patches of grass in the shade, or elsewhere, refused by cattle: it

The order of flowering is thus : 1, vernal, May ; 2, fox-tail, May and June ; 3, smooth stalked meadow, May and June ; 4, rough stalked meadow, June ; 5, fescue, June ; 6, dog's-tail, July.

A meadow well laid down with these seeds, might be expected to be much superior to the common run of meadows. The seeds are sold by, and information may be had from Messrs. Gibbs and Company, the corner of Half Moon-street, Piccadilly, seedsmen to the Board of Agriculture.

The rough cock's-foot grass, (*dactylus glomeratus*), orchard grass, is well worthy of cultivation, for mowing and eating green, in which state all cattle eat it, as it begins to wither, though cows are not fond of it growing. It will grow in the shade, and is very productive ; may be mown two or three times a year. The seed may be had as above.

Mr. Marshall, who examined the spontaneous herbage of the meadows of this district, I have found in general correct ; he says, dog's-tail, soft grass, vernal, ray-grass, and rib-grass, constitute nine-tenths of the grasses in many meadows, which are filled up with sedges and weeds.

The following is the principal meadow herbage of this district, given in the order of its abundance, or prevalence, or being most common : 1. Grasses.—Meadow soft grass (*holcus lanatus*), tall fescue (*festuca elatior*), Timothy grass (*phleum pratense*), ray-grass (*lolium perenne*), vernal grass (*anthoxanthum odoratum*), meadow fox-tail (*alopurus pratensis*), common meadow grass (*poa trivialis*), dog's-tail (*cynosurus cristatus*), marsh bent grass (*agrostis alba*), hard fescue (*festuca duriuscula*), orchard grass (*dactylus glomeratus*), quake grass (*briza media*), yellow oat grass (*avena flavescens*), meadow barley grass (*hordeum pratense*) ; other pasture plants, meadow burnet

(*sanguisorba officinalis*), plantain grass (*plantago lanceolata*), creeping crow-foot (*ranunculus repens*); *Diadelphias* plants, meadow clover (*trifolium pratense*), white clover (*trifolium repens*), meadow vetchling (*lathyrus pratensis*), tufted vetch (*vicia cracca*), bird's-foot trefoil (*lotus corniculatus*), and trailing trefoil (*trifolium procumbens*).

The neutral or doubtful plants are, cow parsnip (*heracleum sphondylium*), yarrow (*achillea millefolium*), upright crow-foot (*ranunculus acris*), yellow rattle (*rhinanthus crista galli*), dandelion (*leontodon taraxacum*), meadow sorrel (*rumex acetosa*), daisy (*bellis perennis*), cowslip (*primula veris*), lady-smock (*lardamine prytensis*), sneeze-wort (*achillea ptarmica*), meadow sweet (*spirea ulmaria*), and goat's-beard (*tragopogon pratense*).

On the higher, or middle land pastures, the following grasses are to be found in addition to some of those named above: Annual meadow grass (*poa annua*), smooth stalked meadow grass (*poa pretensis*), oat grass (*bromus mollis*), couchy soft grass (*holcus mollis*), and fine bent grass (*agrostis capillaris*).

The principal weeds on grass lands have been named under the article WEEDING; the following of less import are in addition; the destruction of the most pernicious of them should be aimed at, to make way for better pasture plants: Hawk weed (*hypochaeris radicata*), marsh flea wort (*cineraria palustris*), ox-eye daisy (*chrysanthemum leucanthemum*), meadow saxifrage (*pucedanum silaus*), wood betony (*betonica officinalis*), marsh valerian (*valeriana diosica*), scorpion grass (*myosotis scorpioides*), yellow bed-straw (*galiun verum*), and broad leaved plantain (*plantago major*); as these are but little browsed upon by any sort of cattle, they should therefore be extirpated.

The creeping cinquefoil (*potentilla reptans*), feathered
 1
 cinquefoil

cinquefoil or goose tansy (*potentilla anserina*), self heal (*prunella vulgaris*), cuckow flower (*lychnis flos cuculi*), wild angelica (*angelica sylvestris*), and many others, are in some degree browsed upon and eaten by cattle; but as they are inferior to grass, their extirpation would improve the pasture, by making room for better herbage.

CHAP. IX.

GARDENS AND ORCHARDS.

NOTHING very particular occurs relating to these subjects in this county. In the neighbourhood of populous towns, are plots of garden ground, managed and occupied by professional garteners, for the supply of the markets; where all kinds of culinary vegetables are to be had, upon reasonable terms, as in other plentiful counties.

Mr. Ainsworth complains that labourers have not in general sufficient gardens, nor even cottages, for want of which they are driven into towns; and that in many cases by enclosures, the cottages have been suffered to go to decay, as the land would let for as much rent without them, to the larger farmers, and by turning it to grass, fewer labourers' cottages were wanting.

It is certainly very desirable, as a means of increasing the comfort and happiness of the lower classes, that every labouring family, whose local situation will admit, should have sufficient garden ground to raise vegetable food for such family, as well as an overplus of potatoes and other vegetables to maintain and feed a pig; and where the least industry exists, such opportunity and encouragement would be a spur to promote it, and exertions would be made to cultivate

cultivate the garden at spare times: no disposition of the land can add so much to the comforts of the labouring classes, as encouragement held out to cultivate a garden by extra exertion for their own benefit and advantage. I have no doubt that proper attention will be paid to so useful a measure by the public spirited proprietors of Leicestershire.

Kitchen gardens, are of course, attached to gentlemen's and farm-houses, for raising every culinary, necessary, and useful vegetable. I reckon garden ground of common fertility, to be in any case worth to rent, £5. per acre, but more is often given, especially near towns; 2s. 6d. per rod of 8 yards square, is a common price, this is £9 9s. per acre; the produce of garden ground in the hands of a labourer, where a pig can be kept to make manure, (if well managed) cannot be reckoned at less than £20 per acre.

2. *Orchards*, seem to have been rather neglected in this county; there are no doubt many situations where fruit would answer well, as upon the deep rich loams, not being too wet; the principal part of the county for the production of fruit is the vale of Belvoir, which produces apples, not only for the consumption of the neighbourhood, but quantities are sent to the towns of Nottingham and Grantham.

Mr. Ainsworth, who has been a professed gardener, and who is very intelligent, says, the planting of orchards in proper situations, would undoubtedly be a great public benefit. Fruit is a very useful article, and apples through their scarcity are very dear, seldom less than one shilling a peck, and sometimes 1s. 6d.; besides, the increase of cyder would not only add to the revenue, but cheer the heart of the poor; even the husks for swine would be a profitable article; the wood also is valuable, for many uses besides the fire, and some sorts, as the cherry and plumb-tree, sell for

as much or more than oak. Had there been a clause in every act of enclosure the last 50 years, for the proprietors to plant fruit trees at proper distance in the hedge-rows, this generation would have enjoyed a peculiar benefit; if they were generally planted the fruit would not be stolen; it is the scarcity that causes the temptation, and fruit is deserving of more attention.

That the soil of Leicestershire, is in some degree adapted to the production of fruit, seems to be the opinion of the Agricultural Society, by their offering the following premium: "To the person who shall, at the annual meeting of 1808, report the most satisfactory information, as deduced from actual experiments, of the soils and situations best adapted for orchards, and of the means used in their plantation and subsequent management, 10 guineas."

From the observations I have made in Worcestershire, I shall answer, that the best soil is a deep loam, not too cold nor wet; a hard gravel substratum is very objectionable; the aspect not too much exposed to the cold points; the plants are better grafted young in the nursery, as that can be repeated after planting out if judged necessary, and that the best soil for fruit I have seen in the county is in the vale of Belvoir.

CHAP. X.

WOODS AND PLANTATIONS.

THIS is by no means a woodland county, and therefore, without any particular established systems of managing coppice woods; the timber is cut down promiscuously at the pleasure of the owner, and meets with a ready sale, for the various purposes for which it is adapted. On the Belvoir estate is plenty of timber and plantation, and Donnington park has all sorts of timber trees, and of every age, from the young plant to a state of decay. About many other of the gentlemen's seats is plenty of timber and plantation, and I particularly observed upon the Beaumanor estate of William Herrick, Esq. an abundance of ripe well grown oak, carefully preserved in a maiden state, and now so ripe as to be fit for any use to which oak is applicable. Mr. Monk observes, there is very little timber in the county, except in the hedge-rows; Burbach Wood contains about 60 acres, with many thousands of young thriving oaks; Aston Flamville Wood, about the same, with some fine young oaks and small ash; these and the woods about Beaumanor, are the principal.

At Cleybrook, and in all that part of the county, there is a great deal of timber in the hedge-rows, which gives it
a very

a very pleasing appearance. Some people are of opinion that timber is here too much encouraged in the enclosures. There is very little timber on the Melton Mowbray side of the county, till you reach the Duke of Rutland's estates, where there are very extensive plantations of oak and other forest trees, which as they grow up will be a great ornament to the country.

There are a few spring coppices in the county, which are coppiced at about a 20 years growth (Mr. Monk): they are upon too small a scale to found upon them any particular system.

Mr. Lynes, Lord Wentworth's steward, plants Dutch willow, on low swampy ground in beds 12 feet wide, 2 rows in a bed, which leaves the plants 6 feet asunder every way; the alleys are dug between the beds, and the contents thrown on the beds; they are cut once in about 15 years, and by this management, the land is made to pay full 40s. per acre, per annum—Mr. Monk.

Upon Dishley farm, are small plantations of willow, made by the occupier, Mr. Bakewell, and continued by his successor, for the purpose of raising rails for fencing, and for hurdles and gates, thus preventing the use of oak.

In some of the young plantations about gentlemen's seats, I observed good large cabbages, grown between the young trees; this I think good economy, as keeping the plantation clean, and growing a valuable and productive crop without waste of land or labour.

In a tour through the county in 1807, I made further observations on its timber and woodlands, and think the county contains as much as is desirable on so good a soil. I believe the annual growth, or increase of the growing timber of the county, aided by the regular importation, is sufficient for its domestic consumption, without lessening the quantity growing; but little or no great supply for ship building,

building, or naval purposes, must be looked for here, although Lord Moira has a profusion of timber of every kind in Donnington Park, of between 4 and 500 acres; oaks of all ages, from the young sapling to the old venerable oak, that has stood the blasts of 4 or 5 centuries, now past maturity and verging to decay. I cannot help thinking but it would be a rational, desirable, useful, and much to be wished for triumph of utility over taste, if the great land proprietors would permit these to be culled out and sent to market, before they were too far decayed; their places might be supplied by fresh plantations; and interest, profit, and personal advantage must strongly second the proposal; many of these would now in a mild and moist spring yield a good deal of bark (an article now of high price and in great demand) and some might produce useful timber, but many of them I fear are too far gone. A considerable quantity of excellent and capital oak is also there to be found, in high perfection and maturity, growing almost close to the Trent; and dispersed all over the park, is elm, ash, lime and beech in great plenty, and of every stage of growth.

Lord Moira has annual falls of timber and sales, in South Wood, Ashby old Park, not by auction, but upon the following liberal principle: the timber is cut down by his lordship's agent, and the bark and appendages sold; it is then marked and valued by a proper judge, tree by tree, and the value entered in a reference book: an agent attends at stated times, and sells to any one who applies, farmer, dealer, or tradesman; whatever he fixes on, whether on one or more trees at this valuation, no abatement is made or advance put on. Mr. Dawson, his lordship's steward, thinks more money might be made by auction, but the tenants and the country are thus accommodated for their own consumption.

The price and value of the different kinds of timber in the Midland counties, I have been well acquainted with, for about 40 years, the first 20 years of which, it underwent but little advance; but within the last 20 it has advanced considerably: the following are the Leicestershire prices, at two periods of time.

Price of Timber in 1786, from Mr. Marshall.

Price in 1807.

	S.	D.	S.	D.	S.	D.
Oak in the round, per foot -	1	6	to	2	0	2 6 to 3 0
Ash, ditto - -	0	9	1	0	1	6 2 0
Elm and Beach, ditto - -	0	9	1	0	1	8
Poplar, ditto - -	0	8	1	2	1	6
Inch Oak boards, per square foot			0	3	0	6
Elm, ditto - -			0	1½	0	2½ to 0 3
Ash, ditto - -			0	1½		ditto
Poplar, ditto - -			0	1½		ditto
Ash Axle-trees - - -	3	3	to	3	6	4 6 to 5 0
Six-inch sellys, a trine of 13 -	12	0			16	0 18 0
Narrow, ditto, ditto -	8	0			12	0
Elm Naves, per pair - -	4	0			7	0 8 0

The value of growing oak, coppice timber, with the bark and all appendages, seems to be doubled within the last twenty years; the timber itself is advanced rather more than as two to three; but the value of oak bark in that time is advanced more than four-fold.

SOME PRICES OF LABOUR, &c. CONNECTED WITH
WOODLANDS:

<i>From Mr. Marshall.</i>	<i>Prices in 1786.</i>	<i>Prices in 1807.</i>
	s. d.	s. d.
Making Faggots, labourer finding bands - - -	0 5 a score	
Ditto, employer finding ditto -	0 4 ditto	
Cutting out Post and Rai 1 -	1 0 per score	
Cutting out Stakes - - -	0 1 ditto	
Cleaving Laths - - -	0 4 per 100	0 6 per 100
Cutting and setting up Cord Wood	2 0 per cord	2 6 per Cord
Double digging Sward, 18 inches deep for planting - }	1 3 per rod of 64 square yards	

Add one-fifth, or 20 per cent. advance, where the present price is not given.

CHAP. XI.

WASTES.

THIS county contains no moors, mountains, bogs, fens, or marshes, or at least none of any extent, or worth the least notice in a general survey: its only wastes of any account, are known by the names of Charnwood Forest, and Rotheley Plain; they are both of them properly commons, or sheep-walks; the former is said to contain 15 or 16 thousand acres, and the latter 5 or 6 hundred. Ashby Wolds, lately a waste, have been enclosed and cultivated within the last 6 years.

Charnwood, though termed a forest, is quite bare and naked, containing no timber or underwood, nor even the remains, appearances or vestiges of any, nor am I, with certainty informed, either by history or tradition, whether it ever did contain any; it is situated in the North-east of the county, but some miles from its boundary; it contains no deer, nor any thing else to give it the appellation of forest, except barrenness, wildness and nakedness; yet from the terms Wood and Forest applied to it, it is natural to conclude, it must formerly have been covered with timber and underwood; its present general appearance is bold and romantic, with a great variety of swells and elevations, terminating



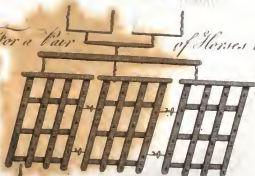
For 1 Horse for. Seeds.

A

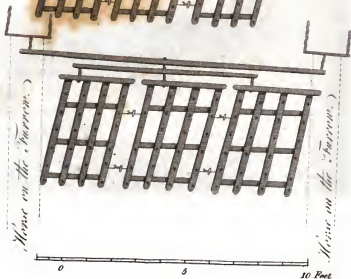


For a Pair of Horses abreast.

B

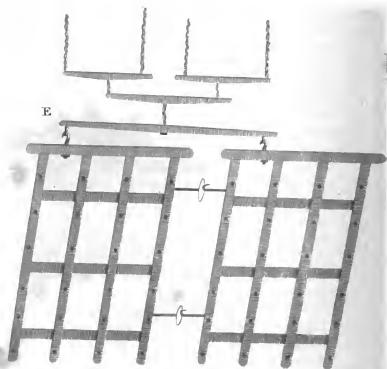


C





Mr. Hanford's Implements &c.



minating generally in bare and rugged rocks, which form a very picturesque appearance, to a considerable distance in all directions : these rocks are not a gritstone or calcareous, but a soft quartzose primeval-stone, being a true mountain stone, of the vitreous order, and carried to a considerable distance in all directions to mend roads ; the forest contains, I believe no other useful mineral yet discovered, except some slate, at or near its borders.

The rocky precipices of the forest, from their number, variety and elevation, have a wild romantic and mountain appearance ; they are, I believe, the highest grounds in Leicestershire, and probably from 700 to 800 feet above the level of the sea ; this mountain appearance seldom commences but at a higher elevation ; it is here within the temperate climate for corn, grass or plantation, although the air is cold and bleak, having nothing but the bare rocks to break off the course of the winds, or afford shelter to the passing traveller.

The soil of this forest is generally a moist grayish loam, in want of drainage in many places ; but considerable tracts of sound land are to be found : the whole is worthy of cultivation and improvement, and I am acquainted with large tracts of old enclosed land of a staple inferior to this, which is capable of producing both corn and pasture, and its impracticable rocky precipices might advantageously be planted with timber, to the great ornament of the country, and which would afford shelter to the adjacent lands ; there is no doubt of timber thriving on these precipices, as although the rock comes near the surface, it is full of crevices and interstices filled with earth, into which the roots of trees would strike for nutriment, and where they would find it. The chief proprietors, according to Mr. Monk, are the Earl of Stamford, the Earl of Moira, William Herrick, Esq. of Beaumanor, and a few others ; the enclosure

sure of it is in agitation, and is expected to be soon carried into effect.

This large waste in its present state is by no means overrun with rubbishy growth; heath and furze abound in patches, and rushes indicate a want of drainage; but large spaces are covered with a grassy verdure, and sheep and cattle find pasture; yet Mr. Bakewell, whose modes of thinking were singular and original, was of opinion that it was actually a loss to those who had the privilege of turning stock upon it, and that, if one man who has this right turns his cow upon the forest in the spring, and another man at the same time gives a farmer eighteen pence a week for the keep of his cow in an enclosure, both being then of the same value, and both being driven to the market at Michaelmas, the difference of price will more than repay expense of keep, and that the difference in sheep would be still greater. I am, however of opinion, that wether sheep and young cattle would, if fairly proportioned, improve there in the course of a summer, and consequently, that it is of some value, suppose 2s. 6d. per acre; but that by enclosure and cultivation it might be improved tenfold, or made equally well worth one pound five shillings per acre, after the first round of cultivation.

The following memorandums were made upon Ashby Wolds in July 1797; for its state in October 1807,—SEE CHAP. VI. ENCLOSURES.

Ashby Wolds, a large common or waste of wet loam, a little but not much encumbered with furze and heath, but for want of drainage, very full of rushes, and sedge grasses, of the *aird* and *carex* species; abounding also with a few of the better grasses, and with the *Tormentilla reptans* in flower; stocked also with sheep of the waste land species, having gray or dark coloured faces, with legs of the same colour, some with and some without horns, and on the

the whole, of an enferior sort. The inclosure and improvement of land of this description is a public benefit of the first kind, and would render land productive, which is at present almost useless. Further memorandums on the spot, October 1801; the cultivation is begun before subdivision, land having been let for crops; potatoes have succeeded well, especially after paring and burning, and also common and Swedish turnips, and oats; a small proportion of the Wolds, thus cultivated, but I suppose not more than 1-20th of the whole.

CHAP. XII.

IMPROVEMENTS.

SECT. I.—DRAINING.

MR. ELKINGTON'S method of draining was very early adopted in this county, and he was personally employed by many public spirited improvers. William Herrick, Esq. of Beaumanor, had a good many bogs about his residence, very unfavourably situated for draining; these he shewed me, all rendered into sound land by Mr. Elkington's drainage. Mr. Herrick was very apprehensive of a spring being injured by the drainage which supplies his house with water; this, however Mr. Elkington's genius was equal to, he drained the bogs, but preserved the spring; it is very difficult to describe the manner this was done, so as to convey the idea. Mr. Herrick endeavoured to describe it to me on the spot, without making me completely master of the subject.—Mr. Elkington began his drainage at the bottom of the fall, from whence he drove up a main drain in such direction as he judged proper (from local circumstances) to intercept the springs; this main drain was often, so soon as the fall admitted, cut for excavation to 8 or 10 feet deep, and carried on as far as judged necessary, applying the boring tools occasionally to its bottom to penetrate the springs. Mr. Elkington considered

considered clay as the dam by which the springs were kept in; to perforate this dam, was therefore his constant aim; his borings were therefore made in dry places, where he supposed the water inlocked by clay, which, when it penetrated into the moist porous stratum beneath, the water would often drive up with great force.

The borer was no new instrument, but the very same which had been long in use in the coal countries, employed in searching for coal, by boring a deep hole through the different strata of $2\frac{1}{2}$ to 3 inches diameter; it is lengthened at pleasure, to any reasonable degree, by iron bars connected to the auger, and to each other by screw joints; it is worked by 2 men, who after they have bored down one piece into the ground, screw on another length, till they have gone their depth; the iron bars screwed to the borer are square, and the workmen have each an iron bar, one end of which is fitted to the square part of the borer, which serves as a handle to assist in boring.

Mr. Elkington had, I believe, the merit of being the first who applied this instrument to the purpose of draining land; it is now in many hands. Mr. Wilkes (who was also a coal master) applied it with great spirit to the drainage of Ashby Wolds; but he, as well as his master in the art of draining, are now no more.

Mr. Elkington was said to have had a quick and certain method of finding where the springs lay, peculiar to himself; this method was nothing but the natural result of experience and observation. I once spent a day with him on a reference concerning springs: when he saw spontaneous aquatic herbage, he concluded the water was pent in, and forced out there; if a bed of sound land happened to lay below, this he concluded to be a bed of clay pent in the water; by similar deductions he judged of sand, gravel, and rock, and was seldom mistaken. Mr. Elkington generally had

his drains filled up, except a small part near the discharge, which might be left open : the materials he preferred for forming the excavation, were two pieces of rock stone edgewise for the sides, and a flat stone across, resting on both as a covering stone ; this at least for the main drains, which it was necessary to keep roomy and open ; the drain was then filled up with the materials dug out.

The great merit of Mr. Elkington's system of drainage is, the fewness or small number of drains necessary, especially when the main drain happens to strike into the centre of the evil ; it is often proper to wait to try the full effect of the main drain, before proceeding farther with the business, and then to make the secondary necessary communications with the main drain.

Mr. Astley showed me a piece of land drained without going into it upon this system, which is also reported by Mr. Monk, as follows : " Mr. Elkington was employed in draining a piece of land belonging to Mr. Richard Astley, which was separated from his brother's by a small river or deep rivulet ; Mr. Elkington finding the spring at about 16 feet from the surface, by giving it vent, completely drained both pieces." Mr. Elkington had been engaged in draining some land near Lutterworth, which he had done by tapping the spring ; it was soon after found that several wells in the neighbourhood went dry ; upon investigating the cause, it was found to be Mr. Elkington's drainage. Mr. Elkington named this, or a similar circumstance to me, and the blame he incurred thereby : he advised them to sink their wells deeper, which, when they had done to below the level of his discharge, all was well, or better than ever again.

Respecting open drains, they are adapted in general only to be the boundary of different properties, being very inconvenient, a waste of land, and frequently want cleansing ;
unless

unless in such situations where they can be laid quite dry, or where under ground fence is wished for and the sides being well sloped they may be turfed for grass; in such cases they may be preferred: the common, or secondary hollow drains are often filled up with pebbles*, or rock stone, and some with thorns, brushwood, heath or other rubbish; but these can only be expected to last a few years; a great deal is done with turf, to carry off the surface water and land springs, which arise in wet seasons only. Some very capital improvements have been made by the former methods, and many also by turf or sod draining, which is effected by laying by the first turf or sod, till the drain is sunk, then the last graft of the drain being at once narrowed or contracted, leaves a bearing for the sod turned turf downwards, and when filled up leaves the last graft an open or hollow drain: moles are great enemies to this method, by working down below the sod in summer, and occasioning the channels to fill up.

With respect to expenses, the sinking will cost 6d. for every yard in depth, or 2d. for every foot in depth, upon perch, or rod, or rood, of 8 yards in length, and the filling up half as much; to which is to be added intermediate expenses, as materials, carriage, beer, &c. The turf or sod draining comes the cheapest, and may cost 1s. per rod of 8 yards, beer included, for one yard deep; those filled par-

* In filling up drains with stone or pebbles, thrown in promiscuously, the work should be begun at the upper end of the drain, and a course of stone of about 5 or 6 inches thick first thrown in; this brings down clean water, and prevents the cavities between the stones, being choked up or fouled; then return with another course, making in all about 18 inches deep of stone, the drain should be narrowed at the bottom, to favour the materials, and the stones covered with heath or some other tough substance, then the clods, and afterwards the soil returned.

tially with rock or pebbles will cost 2s. per rod or more, on account of carriage and materials; those done with brick or tile will cost the price of those materials and carriage, in addition to the labour as above. Mr. Elkington's main drains of 8 to 10 feet deep, must cost from 5 to 6 shillings per rood, or more, boring included, but their effect is often felt to a distance: with respect to ploughed land, the draining wanted there is seldom more than partial; in all soils composed of gravel and clay, spring places are apt to form by the oozing out of wet on the surface, pent back by beds of clay; this it is the appropriate business of hollow draining to cure, by perforating the clay beds.

Bricks are made on purpose for this work. When small drains are wanted, the bricks are hollowed out in the manner annexed, (No. 1.) and by being placed one upon the other form the drain (or pipe). When larger drains are wanted, the bricks are made in the form, and are placed in the manner, (No. 2.) with a stone on the top. The mould pressing on the sides of the bricks keeps them firm in their places. Turf is laid upon the stone, with the grass side downwards, and the drain filled up with the mould, &c. that came out of it. These bricks are about nine inches long, and cost 30s. per thousand.

To these may now be added, tiles for hollow draining, which bid fair to supersede the use of brick; they are thus constructed, (See Plate):—4 inches wide in the hollow, and 4 deep, and 12 inches long; as they can be used for no other purpose, they, I believe, pay no duty; they cost about 50s. per thousand, which laid single will be about 1s. per rood of 8 yards; they will do, set on the ground, except in moist places, when bits of tile pieces are put under them; they are sometimes laid double, forming two drains; they may be varied in size and form at pleasure.

Respecting the general expense and benefit of drainage,

no improvement has paid better, when judiciously performed. I believe for every £5 properly laid out, the land will be improved 10s. per acre per annum, and that very much land remains to be drained, which will pay in that proportion. Arable land well drained may be worked upon at almost any time, and the crop will bear wet and dry, when before it would bear neither. The improvement in grass land is equally apparent, the herbage is improved and rendered wholesome; cattle occupy it with safety and comfort, when before they were liable to be overlaid, and sheep too may graze it with safety: I have no doubt but any unsound piece of grass land, which wants £5 an acre laid out in drainage, may be so improved, at least 10s. per acre per annum.

Mr. Johnson and Mr. Smith do a great deal of hollow draining upon Ashby Wolds. As the wet there is not from springs, but generally surface water, detained by a retentive soil, shallow drains are sufficient. Mr. Smith's are 2 feet 6 inches, which is three spits deep, formed thus (See Plate); an opening or small hollow is left at the bottom, by placing two side stoues and a cover; this I think much better than filling up the whole promiscuously; stones are laid loose above the covering stone, and above them coarse hay, rushes or heath, and then filled up to the surface with earth; the drains thus cost 1d. per yard, running measure; and a cart load of stone will go 16 or 18 yards along the drain; loose stone is in great plenty upon or within the swells, or hills of the Wolds, which is dug out at 9d. per cart load; the whole expense therefore, besides carriage of these shallow drains, is not much over 1½d. per yard, running measure, and the carriage brings it to a little above 2d.; but in some wet places a good many drains are necessary.

SECT. II.—PARING AND BURNING,

Has been practised in this county and neighbourhood, but not generally; nor is the idea generally approved, except on waste lands, to destroy sedges and other rubbish, which would not easily or quickly rot, and thus convert them at once into useful manure. Mr. Monk says, "it is the general opinion, that paring and burning will answer for two or three crops, but that the land suffers by it ever after;" and it appears reasonable in theory, that large quantities of vegetable matter must be dissipated, dispersed, and driven from the premises by this combustion. Paring and burning cannot, therefore, be advisable on any land, where the pulverization can be effected in due time, by ploughing, harrowing, and the use of lime; where that cannot be done, it is certainly right to pare off and burn any rubbish that cannot otherwise be destroyed.

Mr. Ainsworth relates an instance of land being exhausted and very much injured by excessive paring and burning; although it produced two or three good crops; there can be no doubt but fire thus applied must be an excessive stimulant, and all stimulus in the natural world is followed by a proportionate debility. Mr. Ainsworth says, "the diminution of soil by this practice is evident, but is in part restored by the atmosphere, as well as by the rubbish burnt, but in too small a proportion to admit of a speedy repetition of the practice without the aid of manure. Burning cannot add any thing to the soil, but it produces those salts which are not attainable by any other process, and which make the land fertile, being easily soluble, but soon exhausted. Black, moory, deep, rushy land, receives all the benefit of burnbaiting, without any of its ill consequences, from a too speedy repetition; consequently,

sequently, in my opinion, this is the only land adapted to the practice."

Mr. Monk observes, " Mr. Wilkes is the only person that practises burning upon a large scale; and he, I should suppose, has carried it farther than any man in England. I was informed by his bailiff, that they ploughed the land eight or ten inches deep, and burnt it with refuse coal from their pits; by this means, they get a sufficient quantity of ashes from one acre to manure several." I must observe upon this, that Mr. Wilkes certainly made great improvement upon a considerable tract of old coal-pit land by this treatment, and converted it into valuable pasture land; but the burning was necessary to destroy coal-slack and other rubbish, and the soil was added as something for the fire to act upon, and to produce manure for other premises. Mr. Wilkes was possessed of a strong, intelligent, original, and active mind, and whatever he took in hand was conducted with a spirit which overcame all obstacles. I have known him plough a piece of old sedgy turf as deep as the plough would go, and burn the whole for the benefit of that and other premises, and the experiment has been said to have answered; but the benefit or success of it has not been sufficiently apparent, or carried that conviction, as to induce others to adopt the example. Upon the whole, it will follow, that paring and burning is a practice of local and not of general improvement, and to be used only with judgment and discretion, under particular circumstances.

Reclaiming waste land, Ashby Wolds, lately enclosed.
The cultivation of this waste was attempted even before the sub-division had taken place; part of this tract of land having been enclosed in a general way, was offered by the commissioners to the public, in lots, for one year from Lady-day, 1801, for potatoes and other crops; and the
then

then high price of corn and other provisions, induced many enterprising persons to adventure in this temporary cultivation, each paying a rent of about 6s. per acre; and about 100 acres of land were thus cultivated, for potatoes, oats, and turnips, and some of these crops to be followed with wheat. No manure was used, but the crops forced by paring and burning, which was done of greater or less depth by hand-work, at about 30s. per acre for paring, and 10s. more for burning, in all 40s. per acre.

In this enterprize, the boldest and most successful cultivator was Joseph Wilkes, Esq. of Measham: part of the Wolds adjoining that gentleman's property, he is entitled to a considerable allotment; and he, with his usual public spirit and enterprize, was desirous of taking time by the forelock, and engaged 50 acres, which he, in a most spirited and judicious way successfully brought into cultivation, as follows: He first began in April, 1801, with paring and burning; the workmen were desired to go deep, the deeper the better, and the overlookers were desired to attend to and enforce this circumstance particularly; they were followed by labourers or women, who piled the clods in heaps, and when sufficiently dried set them on fire, and burnt them to ashes. When a sufficient quantity of ground had been cleared, Cooke's drill was employed, with its scarifiers, to mark or scratch the land in parallel right lines, four feet distant; the heaps of ashes were then removed in scuttles, or baskets, by labourers or women, and strewed in rows along these right lines or scratches; a team of two or three horses then followed with a plough, and turned a furrow upon these rows of ashes; women followed with potatoe sets, which they deposited rather under the furrow, and the plough returning laid another furrow against the former, thus covering the sets; two more furrows, one on each side, were then laid against the
ridges;

ridges; the furrows were ploughed narrow, and thus proceeding, the land was left in two feet ridges, and two feet furrows, with a row of potatoe sets along each ridge, with the burnt turf beneath them, and the furrows turned above, the intermediate gutter serving as a drain to carry off superfluous moisture, the ridges and furrows lengthwise following the fall of the land—SEE POTATOES.

I find since, that paring and burning has been very generally and successfully practised in the improvement of Ashby Wolds, the soil being generally a cold clay or loam. Mr. Smith, who is a great improver, and has in hand a considerable tract of it, pares and burns for oats, or for turnips, or wheat fallow, with the assistance of lime, and has often raised good crops. Mr. Johnston, who has an entire new farm of 256 acres upon this lately enclosed waste, always begins with paring and burning, which he gets done at £1 11s. 6d. per acre. It is to be observed, that the waste was only partially covered with furze, heath, sedges, or rushes, a good proportion being grassy turf. At first he was obliged to procure men from a distance, who had been accustomed to the work, but the neighbouring labourers soon learned the method, and have latterly done the business. He pares, burns, and limes upon fallow for wheat from its original state, but I believe most of his premises have been gone over, and he will discontinue the practice. Mr. Smith has had some done at 26s. per acre, paring, and 4s. burning—total 30s. per acre. Many persons attempted the cultivation of this waste by other means, but none answered in any comparison so well as paring and burning; which, therefore, became general once over.

Dr. Darwin says, in the *Phytologia*, when clay is united with so much oxygen by fire, as to form a soft or imperfect brick, it possesses the power of promoting the generation

ration of the nitrous acid in certain situations, and may powerfully promote vegetation; and I imagine that the use of paring and burning the turf of some newly enclosed commons depends on this circumstance: that is, that the heat emitted from the burning vegetable fibres, unites oxygen with the clay; which latter forms more than half the slices of turf, as they are dug from the ground. In other respects, the paring and burning of grass grounds would certainly be a wasteful procedure, as much carbon is converted into carbonic acid, and dispersed with the uninflamed smoke or soot, and nothing left but the vegetable ashes.

He says, whatever material has constituted a part of vegetables, may again constitute a part of them, and that with more expedition, if it can be used without being decomposed into its primary elements, and that to burn a hair or a straw, diminishes the sum of matter fit for quick nutrition.

SECT. III.—MANURING.

THE principal manures used in this, as in the other inland counties devoid of chalk, are muck, lime, soot, ashes, and composts, consisting of all kinds of decaying or putrifying substances, mixed up with earth, dung, or lime: marl is not to my knowledge used, for though the county abounds with it, the natural soil is sufficiently deep and loamy, and it would not pay the expense to add what it does not want. There is no chalk in the county or its neighbourhood.

The term muck, though seemingly an uncouth and provincial expression, is nevertheless a necessary one, as denoting

denoting an idea distinct and different from what is meant by dung: farm yard muck, denotes a compost, formed of the dung of domestic animals, mixed with refuse fodder, straw, litter, urine, rain water, and every other spare article that comes in contact, the whole mixed and fermented together; town muck includes the same articles, with the addition of the sweepings of streets, yards, privies, and ashes from the different fires employed in culinary and other uses; this last having a less proportion of straw and litter than that formed in farm yards, and a greater proportion of dung, and putrifying substances, occasions its superior richness.

Mr. Monk says, "in my rides I observed many of the farmers spreading their dung out of wagons, and was informed, they could spread it more even by this method;" but the true reason is, when it is far drawn, a wagon holding the greater quantity is used; and to save the trouble of again shifting it, is thrown out of the wagon in small heaps; the wagon occasionally moving, and a labourer attending, spreads it after the wagon. Mr. Monk states, that stable dung a few years ago was to be had in Leicester at 1s. 6d. per wagon load; and that a gentleman had contracted with two or three inn-keepers in Leicester, for all their dung for three years, at that price; by means of which, and drainage, he had improved an estate from £40 to £150 per annum, and another from £35 to more than £100 per annum; but from the increased demand for manure, it was in 1794, risen to 10s. or 11s. the wagon load.

Mr. Monk observes, "in the practice of the best farmers, dung of all kinds that can be procured is used, as well as composts of dung and lime. The chief manuring is upon turnip fallows, 10 or 12 cart loads of farm yard dung per acre, in carts drawn by three horses," and

which heaped will contain about a cubic yard and a half of dung, or about 90 bushels, which, according to the state it is in, may weigh from 15 hundred to a ton weight. Most people prefer the dung in a rotten state, and in that state it is doubtless best for turnips; if it be drawn into a heap in the field, or turned over in the farm-yard, one month will give it a sufficient fermentation and decay to lay on the turnip fallow, particularly where a good stock of cattle are kept to saturate it sufficiently with dung. The fold yard manure is generally laid on the turnip fallows, and on the clovers. The dung of cattle is not suffered to evaporate on pastures, but gathered in heaps for use by the best farmers.

* *Urine*.—Mr. Monk complains of want of due attention

* In the Philosophical Transactions for 1806, part 2, is given the chemical analysis of cow's urine, by Mr. Brande, of Arlington-street, which contains as follows:

	In 100 parts.
Water	65
Phosphat of lime	3
Muriat of lime	15
Muriat of ammonia	
Sulphat of pot-ash	6
Carbonat of pot-ash	4
Carbonat of ammonia	
Urea	4
	97

If the phosphats, muriats, sulphat, and carbonat could be procured cheap, and soluble in water, might not an artificial urine be prepared, for saturating composts and dunghills? Any chemist who could bring this about, might probably render an essential service to agriculture.

The loss he attributes to animal matter, albumen and gelatine.

in preserving the urine of cattle; but, I believe, it will generally be found to be absorbed by the straw and litter of the cattle, and consequently its contents are in the saturated dunghill of the farm yard, and that little of it is lost.

Mr. Wilkes was a great advocate for laying farm-yard dung on the land, long and fresh; in which state he observed, it would go farther than in any other way; in that state, he said, the land was sure to have it all, and his expression was, "*let the land and the muck settle it.*" He kept a number of working horses constantly in the stable except when at work, and fed them with cut grass, returning the muck they made to the land in a raw state, together with the straw and litter as far as it was wetted by their urine. This he assured me would not only keep the land in good heart, but improve it, the straw and littersy part of the muck soon disappearing, smothered by the grass. Some farmers, on strong land fallows, prefer laying on the muck long and fresh, and in that state ploughing it in; but for turnips, I believe, it is generally or universally preferred properly rotted and fermented; but there can be no doubt but by laying too long, and an over fermentation, the manure must be very much wasted; but I heard of no comparative experiments on this subject, though they appear not difficult to make.

Respecting the manuring of grass land, Mr. Ainsworth says, dung or compost should be laid on meadow land immediately after the hay is carried off; for as at that time the ground is generally the driest of any time of the year, carting on it will not cut the turf; 2, there is the least keep to destroy; and 3, it insures a good aftermath; and the winter rains, &c. will wash all the manure into the soil, so that it will receive the whole benefit of the dressing.

Pasture land may be manured as soon as the first frost sets in, as it is carted then with the least trouble, and at a
time

time when the farmer has the least to do; and as soon as it is thawed, it should be well dispersed by spreading.

I have just found a memorandum of Mr. Wilkes's, wherein he says, "I am now cutting eddish (aftermath grass) daily with a scythe, and carrying it to the stable to feed horses, and think the extra labour much more than compensated, by the food going farther. The dung or muck made by these horses is kept constantly carrying to the bare grass land, as soon as there is a cart load or two, without undergoing the least fermentation, just separating from it the dry straw to litter over again. The wet straw is taken with the dung and laid upon the land, where it soon penetrates, without leaving any thing to rake off." Mr. Wilkes thought that muck lost one-third of its strength and value by being suffered to heat and ferment; and that this heating and fermentation should, therefore, take place in the ground itself, and, as he says, "let the muck and ground manage it," and in the act of heating and fermentation no particle of fertilizing quality will be lost.

Lime is used in considerable quantities, both to mix up in compost, and to lay on turnip and other fallows; 10 or 12 quarters per acre are generally used, and laid quick on the land after slacking, and harrowed into the pulverized soil, or sometimes harrowed in with the seed of turnips or grain.

When lime is fetched any considerable time before it is wanted to be used, (as is the case when the teams are at leisure), it is thrown up in ridges, and covered, or thatched, to preserve it from the weather; and also fenced round to keep it from being trod by cattle.

The limes used in Leicestershire are principally those of Bredon, Barrow, and Ticknel; the two former raised in the county, the latter in Derbyshire.

Mr. Monk observes, "Bredon lime is not in high estimation

mation for the farmers use; they complain it is too strong, and on account of its great strength are afraid to use it." Ticknal lime they approve, because they may lay on a larger quantity without fear of injuring the land. The Bredon lime was then (1794) 16d. per quarter; it is now (1807) 2s. per quarter; and the Ticknal somewhat dearer, five quarters weighing a ton. Builders prefer the Bredon for their use. Barrow lime is much used, both for manure and building, and is particularly famous for water-works; for which, it is carried to various parts of the kingdom. It will form a mortar or cement exceeding the hardness of stone. Amidst the stratum of this limestone are many curious fossil substances.

Dr. Darwin has observed (*Phytologia*), there are two kinds of limestone, calcareous and magnesian; the former most common, promotes vegetation; the latter found at Bredon, Leicestershire, and elsewhere, poisonous to vegetation; it contains two parts magnesian earth, and three calcareous. Notwithstanding all this, it is still used for manure. Mr. Throsby, late town-clerk of Leicester, who knew the county well, says, Bredon, Barrow, and Ticknal lime are used for manure, 40 load where one was 50 years ago: but lime has not been used here for manure in any other way than burnt to a calx, and slacked: broken or pounded limestone has not been used.

Respecting marl, Mr. Monk's observation agrees with mine, that it is very little used. It is allowed to be good for corn, but it is the general opinion, that land after marling will not turf again kindly. It has been used to form a compost for planting fruit trees in, on a gravelly soil, but with no great success.

Gypsum, or alabaster, being found in plenty in Derbyshire, near this county, has been tried powdered as a top-dressing, by several gentlemen and farmers for various
 o crops,

crops, as well as upon grass land; but the general opinion being, that no improvement was apparent, it has fallen into neglect. The Leicester Agriculture Society many years ago offered premiums for ascertaining its utility, but its merit has not been established. Mr. Weston, their then secretary, kept it for sale at 2s. 6d. per bushel; and a claim has been made for their premium for using it against other manures, but the claimant was not able to prove its utility, so as to be entitled to the premium.

Composts are made in considerable quantities from the scouring of ditches, scraping of roads, and other soil or mud mixed with dung or lime; this being turned over till mellow, makes an excellent top-dressing for grass land, and is very commendable management. Mr. Monk states, Mr. Lynes tried an experiment with bones ground fine against dung, upon a piece of clover; the bones evidently the best manure. Mr. Paget recommends, instead of being at the trouble to grind the bones, to mix them in a heap of lime, which will soon reduce them to powder. Soap or coal ashes are laid upon rough pasture land, where they answer well. Soot is principally used as a top-dressing upon turnips, or upon wheat in the spring, where it will very much force and invigorate the wheat crop, provided it be clean from weeds, otherwise the weeds will take their share of the manure, and perhaps grow faster than the wheat. In short, all the manure of the county is used successfully upon the grass or tillage land.

Green crops.—No green crops are here ploughed in for manure, nor any sown but what are proper to be consumed by cattle, or some kind of live stock. Vetches are too highly prized for this purpose, to be ploughed in as well as clover; and I have never seen any buck-wheat growing in the county, except a little at Lord Moira's, to entice the pheasants, and for poultry.

Soot.

Soot.—Mr. Grahame, at Queeniborough, informed that he often uses soot as a top-dressing upon his wheat in March, and that it always answers best when the wheat plant is thick on the ground, otherwise it is apt to force weeds in the vacant places.

Further on lime.—The advantage of using lime upon the late enclosed waste of Ashby Wolds has been decisively apparent, and nothing has been done there to advantage without it. Mr. Ingle, of Ashby, assured me, that wheat he was employed to value there upon some occasion was, after paring, burning, and fallow, only worth £5 10s. per acre; but after paring, burning, and fallow, with six tons of lime per acre, in the same field and season, and land the same, it was worth £13 10s. per acre. Mr. Smith, who is a great improver there finds, that to pare and burn lime and fallow, with plenty of drains, is the great means of improvement; and Mr. Johnston states, that he can do nothing to advantage without lime; with paring and burning he lays on one good wagon load of lime per acre, in fallowing for wheat; then takes oats; and 3, turnips with another wagon load of lime per acre; and seeds sown with the barley: he shewed me a barley stubble, that with lime had produced a crop of 32 bushels per acre, and a part not limed only 8 bushels; and the seeds in the same proportion, without any known difference in the land.

As every source of information respecting manure is of great importance, I shall make a few abstracts on that subject from Darwin's *Phytologia*, which is the more applicable, as his observations were made in or near this county; his residence at Derby being within a few miles of its borders.

He says, lime destroys the cohesion of dead vegetable fibres, and reduces them to earth: a mixture of lime with

oak bark, after the tanner has done with it, will in two or three months reduce it to a fine black earth, which of itself would take as many years: recent vegetables laid in heaps, and stratified with quick lime, are quickly decomposed even in a few days.

Lime is advantageous to sandy land, because it continues for many months to attract moisture from the air above, and from the earth beneath, which is absorbed by the lymphatic roots of vegetables: applied to clay it makes them less cohesive, and renders them more easily penetrable by vegetable fibres; also, in composts it absorbs the acids, prevents their exhalation, and produces calcareous earths, and destroys worms, snails, and insects; has the least good effect on calcareous soils, but even there has greatly improved grass land as a top-dressing. Wet land is improper for liming till previously drained, otherwise, the lime is said to coalesce with the wet earth into mortar, and become too hard for promoting vegetation. Lime forwards the ripening of grain, by converting its vegetable mucilage into starch; when spread on hassocky grass, which has been refused by cattle year after year, it occasions it to be afterwards grazed close; he supposes it occasions sugar in its joints, and less acidity in all its juices.

Lime containing manganese, is capable of setting under water, as is the case with the dark coloured or blue limes. He says, a good deal of the land on the banks of the Trent, especially in that part of Derbyshire adjoining Leicestershire, contains vitriol of iron; here he advises to sow on grass land, 1 a few pecks per acre of powdered gypsum; and 2, twice or thrice as much Bredon lime: the magnesian earth, he says, would unite with the vitriolic acid, and form ochre or limc.

Composts.—Common weeds, dock roots, cabbage stalks,
 4 and

and roots of couch grass, should be mixed with quick lime; the same should be done with leaves falling in autumn on grass lands, which may be easily collected, and especially those from orchards, hedges, and gooseberry trees, that have been infested with caterpillars, as the eggs of a future race of insects are frequently deposited on these leaves, and hatched on or beneath the soil the ensuing spring; these may thus be converted into excellent manure, instead of producing vermin; and by thus exposing the roots and tops of weeds to fermentation, their vegetative powers would be destroyed.

Water plants, also, in many situations growing in great plenty, as the *typha*, cat's-tail; *butomus*, flowering-rush; *nymphaea*, water-lily; *alisma*, water-plantain; with many other aquatics, might by mowing twice a year, and mixing with quick lime, produce a deal of excellent manure.

Whatever, he says, has composed a part of a vegetable or animal, may again, after its chemical solution, become a part of another vegetable or animal; such is the general transmigration, he supposes, that the continual growth and decay of animal and vegetable matter, increases the quantity of such matter, and consequently, that all populous and well cultivated countries may keep increasing in fertility.

Soft efflorescent bricks from old houses contain nitre, and are known powerfully to assist vegetation, when pulverized and mixed with the soil; he, therefore, supposes that where coal and clay abound, clay half burnt would be a profitable manure; supposes salt a manure on clay soils only, and gives chemical reasons. Where acid or aluminous clays abound, the vegetation of fruit trees, as well as herbaceous plants, is supposed to be checked; this may be corrected in gardens by soap-suds, or wood ashes; and upon a larger scale in fields or orchards, by lime, and par-

ticularly by Bredon lime; or by scrapings from roads repaired with limestone. He says, washing of boilers, milk-pans, and dishes, as well as soap-suds, are manure of the most productive kinds and should never pass into a common sewer, but into the garden or straw yard.

Ground bones, and chopped rags, have been tried and found to answer; and he advises farther trials of triturated alabaster, limestone, or soft bricks, as well as iron ochre, manganese, and calamy, in counties where they abound; which, he thinks, might well repay the labour, after the proper quantity had been ascertained by experiment.

He thinks dunghills should be kept moist in summer, to encourage the increase of insects, which enrich the mass; says, putrified fish mixed with earth make a rich compost.

Peat is recommended as an inestimable treasure of manure to land in its vicinity, either with or without the addition of lime; but I have some doubts whether peat in its raw state would be of much service to any kind of land. Peat ashes is, doubtless, good manure, but burning it is a great waste, as Lord Dundonald admits it looses 19 parts out of 20 by combustion, and nearly the same when mixed with quick lime: he recommends to mix fresh slacked lime with five or six times its weight of peat, in a moderately humid and not too dry a state; which, he says, would make an excellent top-dressing for pasture land. This might be well worthy of trial where peat abounds; or if peat were mixed plentifully with quick lime, and the heap covered over with sand or earth, the smoke arising might be absorbed. He thinks quick lime should never be mixed with dung, though recommended by some, as it occasions a waste of some of its most valuable juices by evaporation.

Dr. Darwin thinks manure on clay fallows, and for potatoes, should be laid on not too much reduced; and that dunghills should be covered, as the fermentation advances, with

with soil, or something to absorb and retain the fluid, or gaseous part of the manure. That manures ploughed or dug in should be laid on but a short time before sowing or planting the crop; that one great advantage of the drill husbandry consists in using the manure in the drills only, whereby three-fourths of it may be saved; that were a luxuriant crop is immediately wanted to be forced, it is best to manure from a heap towards the end of the putrefactive process, it being then in its most active state; that top-dressings should be laid on in early spring, and the manure should be nearly in a pulverized state; that cow and horse dung should be weekly gathered from pastures, and laid in heaps for compost, till it becomes less tenacious, otherwise most of it is lost by evaporation.

He says it is erroneous to suppose, that frost meliorates the soil, or is salutary to human life, and that the bills of mortality prove the contrary; and supposes snow much more salutary to vegetation; frost, however, destroys the larvæ of insects in ploughed lands, and is so far kindly to the next summer's produce.

The mud of pits, ponds and pools is well known to be a good manure, but is often full of the living fibres, and seeds of lakeweed, and other aquatic plants, which should either be destroyed by mixing with lime, or by turning over till the vegetation be exhausted.

SECT. IV.—IRRIGATION,

OR the improvement of grass land by watering, may be ranked with the first improvements in British Agriculture, and the intelligent and active land occupiers of this county, have long been alive to the advantages derived from

it, and in consequence have long been in the practice upon such limited or small scale as came individually within their power; the improvement by watering upon all sandy, gravelly, or mixed soils, not too strong or wet is universally admitted; as well as upon all peaty soils or natural meadows after sufficient drainage; but upon strong moist clay, it has not hitherto been found to answer equally well.

The irrigation or watering in this county, may be divided into natural and artificial; the natural irrigation comprehends, the fine meadow land upon the banks of the Soar and other rivers, and rivulets, which taken together amounts to a very considerable quantity of land here: as the fertility by watering became apparent, a necessity arose to confine the stream within due bounds, except in floods; and a channel for the main stream was consequently cut, and this is the origin of the channels of our rivulets, and minor rivers; and I can have no doubt, but the circuitous and zigzag course of many of them, was a work of design, to irrigate the land in floods, and prevent the water going off too fast.

As the demand for hay increased, more attention was paid to drainage, and to prevent the water stagnating on the land, by sinking the main channel where necessary in dry seasons, and forming outlets to carry off the water; and this intention being seconded by the sediment deposited on the surface in floods, adding to the soundness and staple of the soil, is the origin of our rich natural meadows, rendered so with little assistance from man by natural irrigation.

As in consequence of an increased population, and the increasing riches and luxury of the county, a greater quantity of hay and other produce of grass land, is wanting to support a more numerous live stock than formerly, it behoves every one interested and concerned, to endeavour to extend

extend the breadth of water meadow, as a source for supporting a larger live stock, and raising more manure for improving the upland, by artificial irrigation.

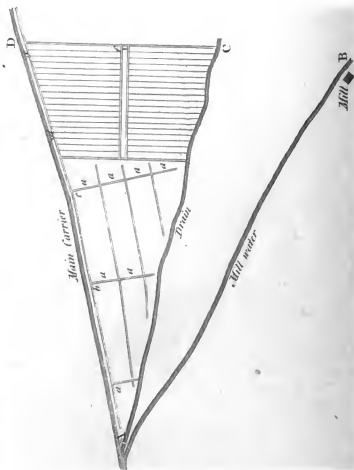
Mr. Monk observes, "no county abounds more with rivulets and small streams, nor is there any where the land lies with a more proper and finer descent, so as to render a very great quantity capable of that improvement, provided the different occupiers would agree to have floating drains carried into continuation over such of their respective lands as would admit of it, for their mutual benefit. Water-mills are a very great hindrance to the extension and general adoption of this improvement. Very little of the land is watered on the side of the county towards Melton Mowbray. It is chiefly confined to the northern part, and is gaining ground very fast. Mr. Wilkes, Mr. Bakewell, Mr. Paget, Mr. Astley, Mr. Moor, and few others, water a great quantity of their land, and have derived great benefit from it. The method varies according to situation and circumstances: Mr. Wilkes and Mr. Bakewell water about 200 acres each, in a very masterly manner. The whole of Mr. Bakewell's is supplied by a canal which he has cut, a mile and a quarter in length, and is still extending it, intending to carry it as far as possible through the estate. He has several patches which are left unwatered, to shew the improvement. The difference of verdure is astonishing; the pieces watered had more grass on them, in the proportion of ten to one, than the parts unwatered, and were of a fine green, while the parts unwatered were of a sickly yellow. Mr. Bakewell is a great advocate for watering, and thinks it one of the first improvements: the land adjoining Mr. Bakewell's is not watered, and it is in the same state that Mr. Bakewell's was formerly, both equally good and capable of the same improvement. The land is full of coarse sour grass, with a great quantity of
rushes;

rushes; while Mr. Bakewell's is in the highest state of cultivation, and not a rush can be seen. Mr. Bakewell never manures his watered meadows. He cuts the grass all the summer round, and carries it to the cattle in their stalls, or on to those fields not capable of that improvement, by which means it goes much farther, and at the same time manures the ground on which it is carried for the cattle; he waters all the year round, cutting the grass 4 times in the year; in very hot weather the water is allowed to continue on the land about forty-eight hours, in moderate weather about four or five days, and in cold about a fortnight; he omits watering when it is likely to freeze on the grass, or more probably when it has already frozen.

The artificial irrigation of this county may be divided into two systems. 1. The ridge and furrow. 2. The catch-water system. In the ridge and furrow system, the land is laid out in broad ridges with intervening furrows, either by hand-work or the plough; and the water is conveyed from a floating gutter at the head of the field, into furrows made down the ridges, and spread over the land by paddles placed in the said furrows, and moved from place to place, as occasion may require.

But the catch-water system is much more common, in which the land is taken in its natural state or form, and the water drawn from as far up the stream as may be, along a main floating gutter, cut nearly upon an exact level, from this the water is let either through open cuts, or by trunks and paddles into smaller floating gutters, cut also upon an exact level, from whence it flows over the lower side of such gutter upon the land, and is again collected and spread by floating gutters on a lower level, and so on to the bottom of the land, when it is discharged into the water course.

Sometimes both these systems may be combined according



cording to local circumstances. I have seen several considerable irrigations in this county and neighbourhood, as those of Mr. Wilkes, Mr. Astley, and at Dishley; and in the following account, I have them all in idea, but principally that of Dishley, which in design and execution, includes both the above systems.

A, is the head of a valley, suppose on Dishley Farm, with a perennial stream flowing down it; A B, an ancient diversion of the stream to supply a mill; A C, the lowest ground or bottom of the valley, having a fall of, suppose 10 feet from A to C; A D, a floating water-course or carrier, upon an exact level, then there will be a fall of 10 feet, from D to C. Mr. Bakewell continued a carrier of this kind one mile and a quarter in length for irrigation, and also became tenant to the mill, to give him a sole command of the water; the spoil in cutting this carrier formed a bank on its lower side.

The main drain from A to C, as well as the main carriers A D, A B, should be of good size, in proportion to the stream, and kept well cleansed, so as to contain the water in floods where practicable, otherwise in wet seasons hay crop runs the risk of ruin: those of Dishley are 3 to 4 yards wide, and 3 or 4 feet deep, yet have been found insufficient in some cases of floods.

The floating gutter, parallel to and near the main carrier, should be but small, 2 or 3 feet wide, and a spade graft deep will generally be sufficient; this gutter must communicate with the main carrier, by a sufficient number of paddles to open and close at pleasure. These floating gutters, as well as the catch-water gutters, must be upon an exact level to discharge the water regularly.

The cross drains marked a, a, a, may be open or hollow at pleasure; they must be carried under the catch-water gutters, by wooden trunks or small aqueducts of any durable

ble material, and discharge into the main drain, but to be paddled up at pleasure, when the land is under irrigation.

At a, b, c, d, and e, are supposed small trunks and paddles, to let the water out of the main carrier into the upper floating gutter near it, from whence the water is to shed over the land as regularly as possible: the attention of a trusty labourer will be necessary to regulate these operations, and to assist the floating gutters, by ponding up or letting off the water, according to local circumstances.

In the ridge and furrow system, a headland crossways must connect the ridges at their upper end, and a small floating gutter upon a level along this headland, communicate with the main carrier, at d and e; the ridges must be formed in the direction of the fall of the land, which will be perpendicularly, or nearly so to the main carrier; between the ridges are furrows, for draining off and discharging the water; and in a deep soil, the broader the ridges are formed the better, for 15 to 20 yards wide, is not too much, according to local circumstances, and when the ground is long cross carriers or headlands to connect the ridges, must be repeated at proper distances; in the centre of each ridge is a furrow for receiving the water from the headland; these ridge furrows must have stops for turning the water sideways over the land, which stops may be of earth or clods, and must be moved occasionally by a person attending: when the ground is long, the water may be ponded up into the floating gutter of the second headland, by putting down a paddle at f, and distributed over the ridges below, and finally discharged at c; these drains and floating gutters will require cleansing every, or at least every other year, and when under irrigation, attention is necessary to conduct the business in the best manner, otherwise, by neglect more harm may be done than good;
but

but with due attention, the benefit of irrigation, where the perennial stream is at command, is universally known and acknowledged. The cleansing of the gutters will more than pay the trouble, by mixing with lime to form a compost for the upland.

In ridging land for watering, it is much more prudent and economical to do the business with the plough, during the course of tillage, and when properly laid and cleaned to sow it with the proper seeds; in this course it will pay its way in preparation. I have known this business done by hand at a great expense, and very much to the disappointment of those who have performed it. Mr. Honeybourn is of the same opinion, that it should always be done with the plough during a course of cultivation.

It must strike every one, who views the annexed sketch, how much these operations would be rendered certain and permanent, by a reservoir of a few acres at the head of the valley above A, which might be drawn down at pleasure, and supply water regularly and systematically, and employ the regular attendance of a proper person at stated times; but though I have upon many occasions strongly recommended this measure, and do still, to such gentlemen and land occupiers, whose convenience and local situation it may suit. I have never known a reservoir of any considerable size constructed purposely for irrigation.

It is also evident from the sketch, that the land on the other side, the main drain to A B, may be watered with equal convenience with that described, the fall from thence to the main drain, being assumed the same as on the other side, also, that all the land further down the valley, and below the level of the main carriers may have the benefit of irrigation, as far as the water will reach.

In the instance at Dishley, the main carrier, in its whole length,

length, is drawn above the level of 200 acres of land belonging to the farm, all or much the greater part of which can be watered, but not always by systematic rules: in some places the land spreads into a variety of aspect, and smaller secondary floating gutters must be cut, adapted to the local circumstances of the case; the main carrier before named is sufficiently large for navigating a small boat, and has been used for that purpose, and as it goes along the lower end of several of the arable pieces, is used sometimes for conveying turnips to the home sheds, for which purpose nothing more is necessary than throwing them loose into the carrier, when they are taken home by the stream ready washed and discharged into a reservoir, from whence the water may be drawn at pleasure; this reservoir, which is boarded round, is also used occasionally for a sheep wash, with a convenient place for them to ascend after washing.

The proof spots, surrounded by a small drain to keep of the water and shew the land in its natural state, which are here constructed, I was assured, shewed a great contrast in spring with the watered ground; but in autumn, when I viewed them, less difference was observable.

Mr. Astley, whose irrigation extends to 100 acres or more, is principally upon the catch-water system; the water is drawn from the natural stream along main floating gutters, and thence distributed and spread upon the land below, by parallel level floating gutters.

The best method of spreading the water over-land must depend upon situation, aspect, and local circumstances, in all cases, upon the catch-water system; a levelling instrument will be necessary, and a spirit level, with a telescope, is much the best; the attendance of a trusty person to spread the water properly, and change it about in rotation is also requisite, and the whole business much perfected, if

if a reservoir at the head of the land be at command, to be drawn down at pleasure; the improvement by watering upon proper soils, first laid dry, and the water judiciously applied, is as great as that by drainage, and may be expected to pay ten per cent. upon any money properly laid out; but effectual draining, and laying the land dry should always precede this improvement.

Upon cool land, consisting of clay, I have known many cautious persons, express their doubts of the utility of watering, and abstain from the practice, as is the case at Queeniborough (SEE ENCLOSURES), where a perennial stream runs through the parish without being used; but I have no doubt but if it were properly spread over the grass land, it would enable it to mow from one to two ton of hay per acre annually with other manure; on light land, or gravelly sound soil, it is I believe unobjectionable, and universally approved.

Mr. Ainsworth says, it was observed by Mr. Bakewell, that pure spring water coming immediately from its source, and without washing any lands in its progress, not only enriches the land it passes over, but after several meadows have been watered with it, it still contains nearly the same fertilizing qualities as at first; and I have heard Mr. Bakewell in conversation state, that he considered the matter deposited generally by water, to be a mere caput mortuum, of no value; and that its fertilizing powers were owing to other invisible qualities; this is perhaps carrying the matter too far, as turbid water may certainly deposit fertile matter, although water perfectly clear and limpid, may also greatly promote vegetation.

Mr. Marshall describes a very fertilizing spring of clear water, the mud or sediment deposited from which contained four-fifths calcareous matter, highly favourable to vegetations; hence he concludes that calcareous matter

may be in solution, or suspended in clear water ; the fertility of the waters of this spring were so well known, that the farmers near were ready to quarrel who should have it. SEE HIS MINUTES IN THE MIDLAND COUNTIES.

Mr. Ainsworth thus accounts for the improvement of grass land by watering: " As water is found to be a conductor of phlogistic, it conveys that kind of air in great plenty, to the mouths or pores of the grasses, which absorb a greater quantity from the water than they could from the air, as being so very near the surface of the earth ; for after a certain number of days, they are sufficiently supplied with that kind of food, and then it becomes hurtful to continue it longer ; the same as over dressing land with manure may be pernicious, or an animal, or a man receiving too much food or liquor." Whether this is decisive, I shall leave to superior judgment. SEE APPENDIX, FOOD OF PLANTS.

Dr. Darwin, in *Phytologia*, states the advantages of watering land to consist in, 1. Common meadow lands are enriched, and morassy ones consolidated. 2. They are defended from the effects of frost by the flowing water or the ice. 3. The ground is rendered more easily penetrable by the roots of grass. 4. The early grass may be eaten off, and a fresh watering will insure a good crop of hay. 5. After the hay is taken off, another flooding will insure a good aftermath ; upon the whole, watering of meadows where it can be done, is a most profitable improvement ; it robs no dunghill, but raises one for the benefit of the other land.

Winter watering is chiefly practiced ; summer watering has been objected to, on account of its certain tendency to produce the rot in sheep. Upon my having observed that such land may be grazed by cattle, I was answered that cattle also, would after watering, tread and poach, and thus

thus injure the land, more than it was benefited by watering; this is more specious, and for the sake of keeping up the argument, than solid reasoning; if land were either mowed or grazed bare in summer, and then watered a few days, and the water taken off, it would be dry enough in summer against the grass was restored for any stock, unless kept moist by rain, which would also equally affect other land; land summer watered might be re-mowed, either for hay, or the grass eaten green in the sheds or elsewhere, but water in summer is not generally in sufficient quantity.

As spring food for sheep, or winter food, it is the general opinion of the most attentive and best informed farmers, that water meadows may be safely grazed with sheep, from the first frost, till warm weather commences in April. I heard no other reasons for this from farmers, but that they had learnt it by experience or information;—that watered land will give sheep the rot after summer floods is well known, and is undoubtedly owing to the presence of the fleuk worm (*fasciola hepatica*) or its larvæ, on the pasture herbage, left there by the water in warm weather. SEE DISTEMPERS OF SHEEP.

A good and well managed water meadow, may be grazed to the middle of April, and being then well watered, dressed over, cleared of obstructions, and the fences repaired, will mow a ton and half of hay per acre in July; when the hay is cleared off, the watering should be repeated, and a good aftermath may be expected by the end of August; but it is but seldom that water is thus at command, and the greatest proportion of such meadows can only be watered in time of floods.

The rent of water meadows may be from three to five pounds per acre, according to nature, quality, situation,
P
command

command of water, and security from floods; those of the higher price are near towns, and rented for the sake of hay and convenience. I believe few or no modern formations of ridge and furrow are made or making, the use of spirit levels is now so well understood, that advantage can be taken of natural situation, and water conducted any where beneath its upper level, by cheaper means at pleasure.

The means of extending water meadows must be by abolishing petty and useless mills, and drawing the water farther along the level of their upper pond. I believe one of the greatest improvements to be made in this and most other counties, would be by a general survey of the valleys by a proper engineer, and appointing commissioners to extend drainage and watering generally, for the benefit and at the expense of the land owners, with powers to purchase and abolish petty mills, having done less than a specified quantity of business, upon the average of a stated number of years. SEE EMBANKMENTS.

I have always supposed, that in all Acts of Enclosure, considerable attention ought to be paid to the rivulets, the vallies, and the land capable of being watered, by the surveyor and commissioners; and that reservoirs ought to be formed at the head of such vallies, and carriers, or floating gutters traced along the line of level, from a few feet below the surface of such reservoir; such head floating gutter to form the line of fence, between the arable and meadow land, by this means the upper water of the reservoir would always be in store, and at command for irrigation. I never knew of this attention being paid, but it ought never to be neglected. The proper clauses can only be framed by those concerned, according to the local circumstances.

Respecting

Respecting watering land from navigable canals, I am of opinion, that the interests of canal proprietors, and land owners are so distinct, that they would never be brought to agree to their mutual advantage, and so as to give the land owners any command of the canal water. The canal proprietors would seldom be willing to part with water, when the land owner wanted it; all that can be done might be this, the flood wears that discharge the waste water of the canal into the ancient water course, might be constructed some inches lower in level than the lock wears, which discharge it into the lock ponds below; the water which passes the lock wears runs down the canal; that which passes the flood wears goes to the ancient water course and the land owner; these flood wears might be constructed in proper places, where reservoirs could be formed for watering land, and would contain only the superfluous water of the canal. I have seen many situations where this might be done to advantage; but to make it apply, the land owners should get a clause in the Canal Act to compel the canal proprietors to construct flood wears in specified places, of stated lengths, with sufficient openings to their canal, and a stated number of inches lower in level than their lock wears, as their project is often a forcible entry upon the property of others.

I have great doubts whether the raising of water by machinery for the improvement of land would often answer; in locally advantageous situations it may, but the expense and wear and tear of machinery is considerable, and the natural flow of the water is much more to be desired; one instance of the kind however occurs in the county at Queensborough.—SEE CHAP. VI. ENCLOSING.

I have often thought, that if sea-water should on

trial be found an improver of land, the place to erect a steam engine for irrigation, would be on a cliff near the sea, from whence water might be sent for miles into the country, and conveyed over large tracts of land.

CHAP. XIII.

EMBANKMENTS.

CONNECTED with the improvements of our vallies and low land, is the embanking of them from external waters, to secure them from the damage, depredation, and ruin, that may be occasioned by inundation. Leicestershire as an inland county, is secure from the sea ; its rivers (excepting the Trent) are of a minor or secondary class, it has no bogs or fens of any considerable extent, but is liable in common, with other similar counties, to sustain injury from the overflow of its rivers, in floods occasioned by excessive rains, or the melting of snows.

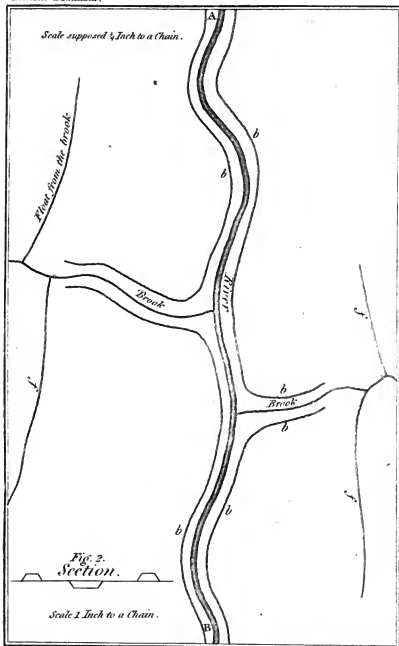
I did not meet with any public or private work in the county, having for its object the securing of meadow land from floods; but as the Board has proposed this as a subject, and the writer has had some experience in it, he will just treat of it shortly, in a general way.

The water of most rivers is liable to overflow its banks after excessive rains in summer, and if this happens when mowing grass is growing on the land, such grass becomes greatly injured by being fouled with mud, sand and extraneous matter ; is very difficult to mow, and of little value for hay when mown ; if such flood happen in hay harvest, as is

often the case, the damage is still greater, the hay is often totally ruined, and sometimes large quantities of it floated away. I know a valley of rich meadow land in another county, where this was expected to be the case on an average, once in three years, and the occupiers provided accordingly, by keeping a good stock of hay before hand, when they had the opportunity from a dry summer and good hay harvest; but this valley is now embanked and drained.

On the opposite side is given an ideal sketch of a work of this kind, which may be applied according to circumstances. A B is a natural river flowing down a valley from A to B, with a feeder, or brook on each side falling into it; b, b, b, &c. embankments on each side the river and up the brooks of the same level, suppose four and half feet high, f, f, &c.; floating gutters from the brooks, with floodgates below to drive the brook water along them for floating the upper land on each side the valley; drains may be cut down the valley on either side the embankments, with aqueducts under the brooks, if necessary, to discharge the drainage water into the lowest attainable level.

Fig. 2. Section of the river and embankments: suppose the channel of the river to be a perch, or five yards and half wide, and four feet six inches deep, and the embankments to be 22 yards asunder, and four feet six inches high, then the space between the embankments will be equal to four times the channel of the river, or the river when channel full, will have room to expand itself into five times that space, before it overflows these embankments; this in most cases would be sufficient to confine summer floods; the land between the embankments and the river will be of the same value as before for grazing, when the water is down, on which account the banks may be constructed

*EMBANKING.**Leicester & Rutland.**Scale supposed $\frac{1}{4}$ Inch to a Chain.**N. 10. E.*



constructed farther from the stream, in those cases where it is subject to greater floods.

The materials for the embankments, may in all cases be pared down from the sides of the river, which might be rendered beneficial in enlarging and regulating the channel of the stream, and where outside open drains are wanted, as is often the case, the spoil of them may be used for the same purpose, if near enough; these embankments should be turfed up the slopes, and on the top, by which means surface ground is gained instead of lost; they may be constructed upon this scale at 2s. per yard running measure; and supposing in the adjoining sketch, the length and breadth of the valley, as from the scale to be 25 chains by 12 that contains 30 acres, the length of embankments does not exceed 1500 yards at 2s. which is £150, or £5 per acre, for securing hay from floods; this security will generally be worth £1 per acre per annum, and will consequently be worth 20 per cent. per annum upon the money expended.

Every work of this kind, and where different interests are concerned, must of course be left to a commissioner, to award to each one his due share of expenses as well as benefits; in this the distribution of waters for floating should be duly attended to, particularly from the collateral streams; and each one ought to be at liberty at all times, injuring none other, to take in water through the embankments in floods, for the purpose of soaking or floating his land at pleasure, by means of trunks and paddles, floodgates, sluices, or any other means, not injuring the public. These banks are not liable to be out of repair from the effect of great floods, the water then passing over them as gently and gradually as over the level surface.

CHAP. XIV.

LIVE STOCK.

SECT. 1.—CATTLE.

THE natural breed of cattle in Leicestershire is now the long horn; and the judgment, attention, and perseverance that has been displayed, in improving to a very high pitch of perfection this species, and more particularly the sheep, and also every species of live stock, by persons of ability, consideration, and character, has for many years back formed, and does now constitute the principal distinguishing feature or characteristic of the county. In their corn cultivation, they are perhaps but little above mediocrity; in that of green crops, as more connected with live stock, they rank higher; their pastures and grass land, aided by a fertile soil, are so managed as to be productive, though not always neat or agreeably picturesque; but in their live stock, taken generally, they have surpassed every other county in the kingdom, and I suppose every country in the universe.

The spirit of emulation for improving every kind of live stock, and which is now so widely spread, was first raised by Mr. Robert Bakewell, of Dishley Farm, near Loughborough, in this county, who was a man of great enterprise, and of sound and acute judgment, and he entered
upon

upon business with many advantages : his father had long been in possession of a small freehold estate, and the well-conditioned farm of Dishley, held on lease, at an easy rent ; and through the whole of a long life he maintained the character of a respectable and upright man, and of being the most skilful grazier in that part of the country. The late Robert Bakewell was bred to his father's business, and his early genius for selecting and improving stock was encouraged by his father, beyond all parallel, and without limitation ; and it may be truly said, without partiality, that he has done more than any other man who had lived before him. He may be considered almost as the creator of a new species of animal, so generally and so justly admired ; we must, therefore, look to him for their origin ; but here some difficulties arise.

Mr. Bakewell was very secret in his transactions ; but few, if any, possessed his confidence ; he did not trust even those who were immediately concerned with him and for him, beyond what the nature of the business made unavoidably necessary ; and I do not believe that even his immediate successors are able to inform us decidedly, and with truth, by what means, and from what stock the present beautiful cattle and sheep of Leicestershire were originally bred.

What was the particular breed of cattle in Leicestershire before the middle of the last century, about which time Mr. Bakewell began his exertions, it is difficult to determine ; perhaps there was not any distinct breed, with particular specific characters, whereby they might be distinguished ; although there were always great numbers bred, yet the produce was never equal to the supply of the county ; there always was, and still is an influx from Ireland, Wales, Scotland, Shropshire, Staffordshire, Herefordshire, Northumberland, and Lancashire ; the latter

of

of which were most probably the stock from which Mr. Bakewell began to breed. His first best cows, it is believed, were artfully obtained from Mr. Webster, of Canley, in Warwickshire; and his famous bull, Two-penny, was bred from one of these cows, or from one procured from Mr. Phillips, of Garrington, and a bull from Northumberland. From these beginnings, with great judgment and attention, in a short time he reared some beautiful cattle; they were long and fine in the horn, had small heads, clean throats, strait broad backs, wide quarters, and were light in their bellies and offals; they were gentle and quiet in their tempers (this I believe owing in great measure to a thorough domestication); they grew fat with a small proportion of food, but gave less milk than some other breeds.

No man, perhaps, ever made more comparisons between the different breeds of cattle than Mr. Bakewell, and no one that was able to tell so much, has told us so little about them; however, in this instance, we are enabled to say, that several years past he put three new milched cows in three separate stalls, an Holderness, a Scotch, and one of his own breed; the Holderness eat most food, and gave much the greatest quantity of milk; the Scotch eat less food, and gave less milk, but produced most butter; his own cow eat least food, gave the least milk, and made the least butter, but laid on the most flesh: hence it will follow, that the Dishley cattle are most adapted for the grazier and the produce of beef. In the course of his life, Mr. Bakewell shewed many individuals, of his own breeding, of extraordinary fatness, but has not left us any particulars.—*In part from Mr. Ferryman.*

As I have several times viewed the Dishley stock, I am of opinion, that for beauty and symmetry of parts, and disposition to fatten, they are not to be excelled by any
of

of their contemporaries, though the principal attention there has for some years back been directed to sheep; and I believe some other breeders are now possessed of heavier cattle stock. The general improvements made in this breed of cattle, since the first attempts of Bakewell, are principally these: the coarser parts have been done away or lessened, and the more valuable parts enlarged. The present improved breed is finer boned, finer in the neck, throat, and bosom, the back straight, wide, and loaded with flesh, the rump wide, thick, and fleshy on the points, insomuch, that in some individuals, hillocks of fat are found thereon, and about the root of the tail; and that even when the animal is only in common condition, or store order, the flank should feel thick and fleshy, and the beast in every part should handle loose and mellow. These points were always and every where esteemed in the breed, but not thought attainable but by persons locally situated on the finest and best land for keeping. The ingenuity and perseverance of Mr. Bakewell and his followers, has, however, in a great measure proved the contrary; and improved cattle are now found in many places where there is nothing extraordinary in the keeping; and it is the general opinion, that well bred cattle will sustain more hardship from hunger, and do better with ordinary food than those of an inferior kind. The efforts that have been made in the improvement of this breed of cattle are greater than have been applied to any other; the success of these efforts in the public opinion has been sufficiently proved, by the extraordinary prices that have repeatedly been given for the stock; and if they are not the first breed of cattle in the kingdom, there can be no doubt of their being a highly useful and valuable breed. It was repeatedly ascertained by Mr. Bakewell, that this breed were less voracious, and kept themselves in
good

good condition with less food than any other of equal weight, and particularly than the short horn or Holderness; and this circumstance very probably in a considerable degree determined his choice.

Mr. Marshall, who resided two years in this neighbourhood, collected many curious particulars respecting cattle, which being already in print, in his *Rural Economy of the Midland Counties*, I shall only make some very short abstracts, which may tend to throw light on the subjects in discussion.

Craven, in Yorkshire, had long been famous for a superior variety of the long horn cattle; from this source the Lancashire cows were originally drawn. This breed seems to have extended into other parts of the north-west of the kingdom, and also into the midland counties. Mr. Webster brought with him to Canley, near Coventry, when he first settled there, early in the last century, from the banks of the Trent, some cows of this breed and a bull from Lancashire, and became the leading breeder of the midland counties.

Mr. Bakewell is well known to have got the lead as a breeder of cattle, by means of the Canley stock and a bull purchased in Westmoreland, from which he bred his famous bull, Twopenny. The improvements upon Mr. Webster's stock are more in flesh than in beauty or utility of form. Mr. Fowler, of Rollwright, Oxfordshire, owed the superiority of his breed of cattle to the Canley blood, his bull, Shakespear, having been bred from a grandson of Twopenny and a cow of the Canley stock.

Mr. Princep, of Croxhall, Derbyshire, but near the borders of Leicestershire, who has now, I believe, the best stock of long horn cattle in the kingdom, taking in symmetry of form, and bulk or weight united, has raised or improved his breed from the same source, having had
Shakespear

Shakespear two seasons about the year 1784, at 80 guineas the season. In 1786, Mr. Princep had a cow slaughtered weighing 361 lb. each fore quarter, and 373 lb. each hind quarter, producing 126 lb. of tallow, and cutting six inches thick of fat on the chine. In 1794, two oxen bred by Mr. Princep, were fatted by the Marquis of Donnegal, at Fisherwick; these oxen I saw a short time before they were slaughtered, they were much alike in size and condition; one of them was carefully weighed by Mr. Bowman, his lordship's steward, the four quarters weighed 1988 lb. the tallow was 200 lb. and the hide 177 lb.: this ox, at the common price of beef in the country, was worth £60, or guineas. They were both slaughtered for the use of his lordship's family.

Mr. Princep was offered some time ago, as I have been informed, by a very popular and well known nobleman, after viewing his stock, for 20 dairy cows, £2000, which offer was declined.

Many other very capital herds of cattle are to be found in this county. - Mr. Astley, of Odstone-hall, has a numerous and very superior stock of cattle; in July, 1797, Washington, a bull, and lady Washington, his dam, a cow, which cost £194, both from the Rollwright sale, were in his possession, but somewhat superannuated.

In 1789, Mr. Paget had a yearling bull, which leapt at £5 5s. per cow; the price of letting by the season was then £50 or £60 in common, and to sell to £100, and upwards. In 1793, Mr. Paget retiring to a smaller farm, his highly improved stock came to the hammer as follows:

First

First Day's Sale, November 14, 1793.

	Guineas.
Lot 8, Short Tail, by Shakespear, bought at Mr. Fowler's	38
Lot 9, Eyebright, by a bull bred by Mr. Varnam	51
14, Strawberry, by a Dishley bull	31
16, Brindled Eyebright	33
26, Penn	35
29, Young Dandy	30
30, Brindled-Finch-Tidy	29
Bulls and bull-calves.	
34, Shakespear (bred by the late Mr. Fowler) by Shakespear, off Young Nell.	
Whoever buys this lot, the seller makes it a condition that he shall have the privilege of having two cows bulled by him yearly	
	400
35, Bull-calf, by Lot 34	23
37, A ditto, by ditto	31
39, A ditto, by ditto	31

Second Day's Sale.

Lot 45, One three years old heifer	70
47, One ditto	32
48, One ditto	35
52, One ditto	35
55, One two years old heifer	25
57, One ditto	60
58, One ditto	84
60, One ditto	29
61, One ditto	25
64, One ditto	27

Shakespear,

Shakespear, lot 34, was bought as above by a partnership in the county, and afterwards served cows at 25 guineas each: I saw him at Mr. Stones's, *Quorndon. W. P.*

The whole of the heifers were by lot 34, and together with the cows had been bulled by him, except lot 52, which had been bulled by a son of Garrick, off lot 8.

Respecting the form or make of a good medium or minor long horn beast, for they cannot be all expected to be pre-eminent, they should be well proportioned in length, depth, and thickness, wide particularly on the rump, with short legs, and thin horns spreading wide; the colour red, or pied, (i. e.) red with streaks of white on the back and belly, or breened (i. e.) dark colour with streaks of white, or white with patches or spots of red, or dark brown; these last, some time ago much esteemed, are now less so. Bow or lowk horns were formerly fancied, but have now given way to a fine spreading horn; the hide should handle sleek and loose, of a moderate thickness and weight, when fat, from 9 to 12 score the quarter, nett weight; but superior stock often weighs much more. The price of store or other stock at market, is governed by the price of beef and dairy produce; a fresh, barren or dry beast is worth two-thirds of its value when fat; which, if to make the above weight with the summer grass, will be from 13 or 14 to £18 per head lean; a dairy cow and calf somewhat more; but the price must depend upon the kindness of the beast, the times, and many local circumstances.

2. *Dairy*.—Although the improvements in the long horn breed of cattle have been chiefly directed at the carcass, and consequently at an increased produce of beef, yet this breed produces in this county many excellent milkers and dairy cows, and Leicestershire may be considered as a considerable dairy county. In the neighbourhoods

hoods of Hinckley, Bosworth, Appleby, and Snareston, are many respectable dairies of long horn cows, of from 12 to 25 cows each; and again in that part of the county bordering on Derbyshire and the Trent, and also in the vale of Belvoir; but in this latter district, the cows are in part Holderness or short horn; these eat the most food, and give the most milk, but the milk of the long horn is richer, and will produce more cheese or butter; a considerable quantity of cheese is made, more than is consumed in the county.

Mr. Ferriman, who has given much valuable information to the Board concerning live stock, has, in some degree, impeached the skill of the dairy women of this county, and I suspect either from inattention or mis-information has done them great injustice; he says, "making good cheese is but little understood in Leicestershire; the ground indeed is unfavourable to dairies, the skill of the dairy women is still worse, notwithstanding Stilton cheese is chiefly made in this county." If this were correct, whence comes the very great quantity of cheese, and of excellent quality, which is found annually in Leicester fair, on Oct. 10, in the very centre of the county, and which cannot come from out of the county without being brought near 20 miles, though I believe some little is brought both from Warwickshire and Derbyshire, but not at all superior to the cheese of the county; this cheese may be somewhat inferior in staple and appearance to the best Gloucester, but is nevertheless a very good and useful article, of a moderate size, from 6 to 9 or 10 to the hundred weight, of 120 lb. in part coloured with anatto, and in part of its natural colour.

The late Joseph Wilkes, Esq. who dealt largely in this article, and whom I have more than once seen very busy in this fair, who sometimes bought up large quantities of
cheese

cheese for the navy, the capital, or other places of great consumption, would have borne ample testimony to the industry and good conduct of his countrywomen in the management of the dairy, and with many of whom he was personally well acquainted. I have been informed by Mr. M. who was some years out-rider and clerk to Mr. Wilkes, who bought many thousand tons of cheese for him, and whose knowledge of the Leicestershire dairy is accurate as his veracity is unquestionable, that in no country do they know how to make more cheese from their quantity of milk, and in few countries how to manage it better. The quantity of cheese generally produced from a cow, is from three hundred weight and a half to five hundred weight per annum, average four hundred weight; when five hundred weight is produced, it must be under the following favourable circumstances: 1. the calf must be taken from the cow as soon as possible after calving; 2. if a cow goes off her milking, such cow is taken from the dairy, and a fresh one added to keep up the number; 3. good old pasture is necessary, and plenty of grass, as well as prime stock and good management; four hundred weight per cow is produced in common, when the calf is taken away in reasonable time, and no butter is made; which is the case in some dairies, where they are so careful not to skim the milk, that butter is even bought for the family use; in other cases, the milk is skimmed on Sunday only, a family cheese made on Monday morning, and new milk cheese the rest of the week; when this is the case, less cheese must be expected. Mr. F. says, the average quantity of milk from each cow, in the summer, may be about 10 quarts per day; I believe this should have been 10 quarts per meal: he says, also, in summer each cow will yield about 14 lb. of cheese per week, if no butter is made, and about 6 lb. of butter, if no cheese

is made. I believe this to be rather a low estimate. Mr. F. says further, " what the plants are that are favourable or unfavourable to the making of good cheese I know not, but it certainly requires great attention to discriminate between those pieces of ground which are proper for dairy cows to feed upon, and those which are not, for there are but few, if any farms, where all the pastures are equally proper, and fit for the business of the dairy." In answer to this, I know from my own experience, and it is corroborated by others of much greater experience than myself, that if cattle are healthy and in good condition, any pasture that is capable of keeping them so, will produce good cheese, if the dairy be well managed ; but good artificial grasses in the spring, old turf pasture, well shaded and watered in the summer, and meadow aftermath in the autumn, will produce the greatest quantity ; and a person possessed of these need be under no great anxiety about selection of pasture, otherwise than to change his stock about at proper time. A principal necessary rule to be observed in the dairy is, to use good sweet rennet, and great cleanliness ; to which may be added, giving the milk sufficient time before breaking up the curd, and not breaking or squeezing the curd too much to force out the fat. But respecting the minutiae of cheese-making, it is so much better known to every respectable dairy woman than I can describe it, that an attempt at the latter would only be a waste of time and paper.

I have seen cheese-presses in Leicestershire, consisting of a heavy stone drawn up with pulleys, and in other instances drawn up with a screw ; when additional weight is wanting, it is not uncommon to load the stone with cast iron weights. Mr. F. says, the cheese-presses in common use are very imperfect machines, as there are no ready means of regulating their pressure ; they press too heavy at the

the

the first, and do not follow down the curd without repeated lowerings.

Mr. Monk reports, that in summer 12 cows make two cheeses per day of six to the hundred; this in seven days would be two hundred and two cheeses over, at 120 lb. to the hundred, which is the regular weight of the county, or 20 lb. in six days from each cow. He also reckons about 1 lb. of whey butter to be made per week from each dairy cow. A cow, he says, requires about two acres and a half of good land to keep her the year round. Dairy cows generally calve from Candlemas to Old Lady-day; heifers are seldom all in before the latter end of April or beginning of May. Dairy farmers generally breed their own cows. Those who wish for a quick return, send their heifers to the bull at two; those who chiefly regard the improvement of the breed, do not send them till they are three years old. Good cows will continue to breed and to give milk till they are 20 years old, but they lose in value after 8 years old, and of course are generally put to fat at about that age.

Estimate of the Annual Produce of a Dairy Cow.

	L.	S.	D.
Four hundred weight of cheese, at per			
cwt. - £3 - - -	12	0	0
A calf, taken from the cow at a week old	1	1	0
Pork, or bacon, from dairy produce each			
cow, and whey butter - - -	1	10	0
	<hr/>		
Total	£ 14	11	0
	<hr/>		

Further on breed from Mr. Monk.—Lord Harborough has been at a great expense to improve the breed of cattle in general, for the benefit of his tenants. His lordship gave £157 for a bull and £89 for a cow, besides hiring rams at a great price from the first breeders. I was informed, that his lordship for many years used to give considerable prizes to his tenants for the best calf, &c. &c. but, finding they had the impudence to attempt an imposition, his lordship has left it off. His lordship told me, “That he had given a commission to offer for Mr. Paget’s famous bull, and with no other view than the good of his tenants.” I heard his steward offer 50 guineas apiece for ewes at Mr. Paget’s sale. He bought a heifer at 70 guineas, which was, no doubt, for the laudable purpose of improving the stock of his lordship’s tenants.

By information from a very intelligent cheese factory, who attended Leicester fair, Oct. 1807, I was informed, that the quantity of cheese generally sent there amounts to about 200 tons; the general price this year from 58s. to 60s. per hundred plain, and to 62s. or 63s. best coloured; general average about 60s. for new milk cheese; skim or two meal cheese of course lower.

By the same person I was informed, that the quantity of cheese annually sent down the Trent from the counties of Leicester, Nottingham, Derby, and the north of Staffordshire, considerably exceeds 5000 tons; this may be considered as the surplus of those districts over and above their own consumption: the place of destination being the metropolis, and for victualling the navy. Of this, Leicestershire produces at least 1500 tons, which will require 7500 dairy cows to produce it at the before-named average.

For the supply of the county itself, I have calculated upon another occasion, on the subject of scarcity, and which is in possession of the Board, that one dairy cow is
required

required to every 16 persons, to supply cheese, butter, and milk, and the population of this county being near 130,000 persons, will require at least 7500 more dairy cows for its own consumption, supposing nothing of dairy produce exported from the county except the cheese before stated : the dairy cows of the county must, therefore, be about 15,000 ; this number is kept up principally by rearing in the county.

Suppose these dairy cows of five different ages, from three to seven years old, both included, then 3000 may be annually fattened off, and 3000 introduced ; but, as many are fattened off at an earlier age, I suppose 4000 cow calves may be annually reared, and probably 2000 bull calves or oxen.

Quantity of land necessary to support the above dairy stock :

	Acres.
Summer pasture for 15,000 dairy cows	30,000
For rearing calves the first year	1,500
For stirks and heifers the second and third year	6,000
For feeding off 3000 head of cattle, hay included	7,500
Hay ground to winter the dairy cows	15,000
Total dairy ground	60,000

In addition to which, some little assistance from the arable land, for straw, turnips, &c. will be wanted.

If 2000 bull calves for oxen are annually reared, and made fit for the butcher at six years old, I think the least land we can allow them is as follows :

	Acres,
For the two first years one acre per head	4,000
For the four last years two acres per head	16,000
	<hr/>
Total ox ground	20,000
	<hr/>

Producing annually 2000 oxen, or one from every 10 acres; suppose the weight 12 score the quarter each, or 960 lb. of beef from 10 acres, this is 96 lb. of human food per acre, per annum; and suppose the value 7d. per lb. sinking the offal, this makes the value or produce of land applied to breeding and feeding oxen, £2 16s. per acre.

Annual value of produce from 15,000 dairy cows, as before stated, at £ 14 11s. per head	£
- - - - -	218,250
Do. 3000 cows fattened to 9 score the quarter each, sinking the offal at 7d. per lb.	
£ 21 each	63,000
	<hr/>
	£ 281,250
	<hr/>

Value produced from 60,000 acres; this is £4 13s. 8d. per acre, besides what may be expected from young stock as overplus, from rearing annually 4,000 and only accounting for 3000 in the above estimate. I believe the weight of human food produced from dairy cows, per acre, to be nearly double that produced from oxen, and its value in the same proportion. Oxen are, therefore, very unprofitable to rear, any farther than as they are wanted for labour.

A cow to eight years old may be estimated to consume and produce as follows

For

CATTLE.

231

	Acres.
For the three first rearing years, one acre each year	3
For the four next milking years, two acres and a half each year	10
For the feeding year	2
	<hr/>
	Acres 15
	<hr/>

	lb.
Produce.—Four calves fatted to 25 lb. per quarter each	400
Pork from its milk and whey, 60 lb. per annum	240
Cheese for four years, 480 lb. yearly	1920
Its own carcase at last, 9 score the quarter	720
	<hr/>
Produce from 15 acres	3380 lb. wt.
	<hr/>

This is upwards of 225 lb. per acre per annum, of human food.

Mr. Honeybourn is of opinion with me, that oxen are very unprofitable stock to rear, any farther than as they are wanted for work, and this can only be to a certain extent, even allowing them the merit claimed by their most sanguine advocates. He sometimes rears an ox of a favourite breed, and promising appearance; he shewed me one, Oct. 1807, of about four years and a half old, ripe enough to be worth 30 guineas this season, but thinks it then unprofitable compared with heifer stock: this ox

had not been worked. Another of his oxen, five years old past, now fat, had been worked, and therefore paid its way better. Mr. Astley rears and feeds, but seldom draws oxen.

A good bull calf at two months old, may be fatted to 160-lb. weight of veal; an ox at six years and two months old must have grown well to come to the weight above stated 960 lb. consequently 800 lb. weight only is gained by six years grazing.

Mr. Honeybourne draws heifers occasionally, and would more so, as well as oxen, but from their particular horse system (SEE HORSES); but thinks heifers for draught would answer better than oxen. The number of calving cows kept at Dishley is about 25; they rear every cow calf, and he thinks every well bred cow calf, calved in proper time, should be reared, and that bull calves, except for getting stock, or as far as they are wanted for work, should be fatted on the cow. Their annual rearing is about 15. I saw the young stock of different ages; they are by no means large, but fine in the bone, and sleek and mellow, and their beauty and symmetry of parts, as perfect as can be conceived; clean and active as does, keeping in good condition upon common pasture, and quickly fattening to a great weight. Mr. Honeybourne is of opinion, that heifers are superior to oxen to fat at any age, with or without breeding from them, and that they would produce a greater weight of beef per acre. Two principal bulls were shown to me at Dishley, Oct. 1807, the one in full prime, leaps occasionally, besides serving themselves, at £10 10s. per cow; the other aged, but as fat as an animal can well be made; hillocks of fat upon the rump and round the root of the tail; meant for the butcher this season, and now estimated at 15 score (300 lb.) the quarter, although of small dimensions, except thickness. Both these

these animals without a sexual examination might be mistaken for capital well bred oxen; they are indeed as fine in the bone, clean made, and free from offal, and from every appearance of coarseness as many heifers.

The oxen reared in this county for work, or otherwise, are generally of the long horn breed, but numbers are bought in for fattening, and sometimes worked, of all breeds, long and short horn, Hereford, Scots, Irish, and Welch. A very small proportion of the team work of the county, however, I suppose not one-twentieth part, is done by oxen.

Respecting rules observed in breeding, the owners of capital stock breed and rear all their cow calves that come in proper time, and as many bull calves as serve for their own use, and for the speculations they are engaged in. The dairyman rears an annual lot to keep up stock and to spare, adopting the early cow calves.

The bull calves reared are run upon a cow, and sometimes the cow calves by the breeders, but the most common and economical system, is to give them new milk for a week or a fortnight, then milk pottage, which is water and a little milk thickened with oat-meal, barley-meal, linseed, or oil cake, or whey, or whey pottage; they must be thus fed for eight or ten weeks, when they will maintain themselves by grazing. I have before calculated that 4000 cow calves, and 2000 for bulls and oxen, are annually reared from 15,000 dairy cows in this county; if we deduct one in ten for casualties and losses in calving, this leaves 13,500 calves annually, of which 6000 are reared, and 7500 fattened for the butcher.

The dairy-man who has room for selection, naturally rears from his best cows that calve in proper time, and puts his cows to the best bull he can command. The proper time for rearing cow calves is only in the spring months,
that

that they may be ready to graze early, without robbing the dairy.

The general size of Liecestershire cattle, when full grown and fat is, cows from 8 to 10 score the quarter, and oxen from 10 score to 15 score the quarter, though many instances occur of individuals very much exceeding that weight; the form has been already described; respecting constitution, they are sufficiently hardy and healthy as any other breed; the most general colour is red or brindled, with streaks of white along the back and belly. Mr. Ferriman says those of a deep red, dark liver colour, or black with tan coloured sides are the hardiest, and have the best constitutions, will endure the severest weather, perform the most work, live to the greatest age, fatten on such food as would starve those of weaker colours.

Respecting crosses, none are sought for in this county, except with a good bull of their own breed, though there are some exceptions; the Durham breed, and short horn or Holderness being kept and preferred in some parts of the county.

At Lord Moira's the improved Durham breed is preferred and kept; it is a well made thick heavy respectable breed. The great ox that travelled through a great part of the kingdom was of this variety, which is a striking proof of the perfection they are capable of: I was there shown a five year old bull of this breed, a fine, thick kindly and heavy animal, the colour mostly white with black spots; also five Durham oxen of his Lordship's breeding, grazing in Trent meadows, they were four years old, and large enough to make 15 or 16 score per quarter; the breeders however here assert, that these will not fat or ripen with their long horn breed, and that unless they are well fatted, they will not take so much price per pound to the butcher, being in a half fat state, coarse and unkindly. The dairy consist of 8 very fine Durham cows, and 2 Alderney; the Durham breed

is well known, being short horned, resembling the Holderness, but larger and heavier; here were also 7 Seots Ayrshire bullocks, large enough to make 10 or 12 score the quarter. The Fifeshire I understand are larger still.

Food in winter. Dairy cows whilst they give milk are fed with hay in cow-sheds in the night, and turned out in the days; when dry with straw, and a few turnips, and after calving wholly with hay, and picking in the pasture land; preserved in autumn.

Young cattle are wintered upon straw, and a small portion of turnips thrown upon grass land. Calves have turnips or cabbages and picking, or if the green food fails a little hay.

Fattening cattle are generally made up and sold before the approach of winter, and there is very little stall feeding here; but if a lot nearly ripe, happen to lay upon hand till hard weather comes on, they must be tied up and fed with green crop, corn and chaff, or oil cake, as well as hay, but this is seldom the case, and I saw very few instances of good feeding sheds within the county. Mr. Astley has something of the kind, but not modern built, and seldom keeps fat cattle up long after Christmas. Mr. Ferriman says, the cow-houses or rather hovels, are ill contrived in every respect, though it is proved by actual experiment, that cattle fatten faster and do better for being kept clean and warm; and the fact is, the Leicestershire grazier begins to fatten his cattle in winter, when they will do in the yard, or field, with a little hay or green food, and finishing them on the summer grass, they are ready before a second winter.

In summer all sorts of cattle are kept in pastures at grass, and suffered to range at liberty; there is no objection to artificial grasses, particularly ray grass and clover, early in the spring or summer, but some danger from clover alone without a good deal of care and caution, and indeed

indeed natural grass is the most proper for cattle, and for dairying good old pasture in summer turns to the best account, as well as for fattening cattle; it is understood universally, that water in summer in a cow pasture is absolutely necessary, and shade cannot well be dispensed with; in autumn nothing can be better than meadow aftermath, which is generally and properly reserved for cattle: respecting soiling, or carrying green food to cattle in sheds, it has been little practised, and the high price of labour here militates against it. Mr. Bakewell often kept up heifers for draught, and other stock in summer, and fed them with mown grass, but this practice is not now or but seldom persevered in; though nothing bids fairer to be a great improvement in rural economy, than making all pasture land rich enough for mowing, confining cattle in stalls, carrying them mown grass, and returning the manure they make to the land as back carriage. I firmly believe, that if this practice were general, with due attention to the improvement of the land, the quantity of live stock might be nearly doubled, without extending, but only by improving the present breadth of pasture.

Respecting the management of cattle, very little remains, but what would be a repetition of what has been said before, unless it be respecting the numbers kept in the county, and the land necessary to support them: it has been stated before, that the stock reared and regularly kept in the county, require for their support of pasture and hay ground

80,000 Acres.

The permanent grass land of the county is estimated, Chap. I. Sect. iv. Parks and Pleasure Grounds included at

240,000

The Artificial Grasses, Chap. VII. Sect.

III. Course of Crops

85,000

Total grass land

325,000

Deduct

Deduct for gentlemen's groves and plantations	-	-	-	5,000
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Remains useful grass land, applied to live stock	-	-	-	320,000
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Deduct, applied to the support of horses, one-fifth of this. See Sect. III. of this Chap.	-	-	-	64,000
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Remains for cattle and sheep				256,000
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For want of other data, I will suppose that this remaining grass land is equally divided between cattle and sheep, to each species

	-	-	-	128,000
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For stock reared and regularly kept in the county as before	-	-	-	80,000
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Remains for feeding cattle, stock to be supplied from elsewhere	-	-	-	48,000
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If we allow of this two acres per head, besides what assistance they get from green crops, the number of cattle wanted annually will be 24,000 besides their own breeding, of which they feed 5000 more, making 29,000; but as the green crops yield more assistance than above reckoned upon, it is very probable that in the county there are annually fattened not less than 30,000 head of cattle, of which one-sixth are bred in the county, and five-sixths bought in; weight when fat 9 to 12 score the quarter, but many both less and more, average 10 score 10 pound; value when fat from 20 to £30 each, but many sold both higher and lower, average value £24 per head when finished, those bought in

in gaining one-third, and costing two-thirds of their value when fat: very little stall feeding, nor much corn or oil cake eaten by cattle, the greater part of the business being done by grass in the field, of these one-third are probably consumed in the county, and the remainder sold out of it, to Birmingham, the populous parts of Staffordshire, or the metropolis.

	£.	£.
Amount of 30,000 head of fat cattle at	24	720,000
Ditto of 25,000, bought in at -	16	400,000
		<hr/>
Produce of fat cattle		320,000
		<hr/>

It must be very clear, that all such calculations must be uncertain, but these being founded on the keep, and breadth of land producing it, and upon several general views of the county, are the best I am enabled to make, and are open to the observations and corrections of others.

I met with no cow-sheds in Leicestershire worthy of any particular drawing, nor with any machines, for weighing cattle, except the common road machines; grazier and butcher generally settle the weight and the price by the eye and hand, which depends in a great degree upon the plenty or scarcity of fat cattle, and keep to support them.

The cattle of Leicestershire are generally healthy, and their health here, and in other counties, very probably depends in a great measure upon being regularly well kept; they will easily bear frost, snow, and cold out of doors, if they are in good plight, and have picking at grass, or good hay, or turnips.

Distempers.—Mr. Ferriman says, “when cattle are hove, it has long been a practice to force a small stiff rope down

down the œsophagus, which generally removes the obstruction; if a proper rope is not at hand, large pails full of cold water, thrown one after another upon the back of the animal, gives such a shock as to occasion a violent eructation, and to give relief; last of all, a small knife thrust into the rising side may save, as it may kill, and is sometimes successfully used.

The garget is but little known, and boldly scarifying is thought to be the only cure.

There are many remedies for the flux, change of pasture, dragon's blood and ale, or setoning with bears foot, in the dewlap.

Scour, in rearing, or fattening calves; it answers to the lientery of medical writers: the following rough recipe has been very successful; give a small handful of drift sand and salt, with an egg new laid, beat up together, and wash it down with alum whey; it is very probable that opium, decoctions of Campeachy wood, and bole armenic, would be efficacious in these complaints.

Black leg, quarter evil, irons of Staffordshire, and murrain of some counties, a dangerous complaint, often fatal to young cattle, particularly to yearling calves; it consists of a stagnation of the blood, often beginning apparently in the leg, and soon extending into the body, quickly succeeded by mortification and death; in some places and seasons many die of it; bleeding, and setoning at Michaelmas, and drenching with medicines that have a tendency to thin the blood, are practiced with a view of preventing it; when the disease has taken place, nothing can save the life of the animal, but incision to prevent the mortification spreading.

Foul, or lameness from a putrefaction of acrid moisture within the hoof, similar to the foot rot in sheep, and like that cured by caustic applications.

Turn,

Turn, or vertigo, when this complaint attacks the beast, if it be in pretty good plight, the best way is to slaughter such beast, though the disorder is said to be cureable by an operation similar to that of trepanning the human skull.

Foul water, not difficult to cure by astringents, if taken in time. Dr. Darwin in his *Zoonomia* says, 60 grains of opium, with or without as much rust of iron, given twice a day in a ball mixed with flour and water, or in warm water, or warm ale, is I believe an efficacious remedy in this complaint, to which add two quarts of barley or oats twice a day, and a cover at night if the weather be cold.

Oxen.—It has been observed before, that oxen are sometimes worked, but in small proportion, nor do I think the practice is increasing. Mr. Stone of Barrow had two plough teams, of 5 oxen each; when I was there, part long and part short horn, which his servant told me they were tired of, and meant to lay by, and feed off; soil harsh and strong, horses supposed much superior. Oxen drawn also at plough upon Ashby Wolds, and elsewhere, both alone and mixed with horses.

Mr. Ferriman says, bulls will retain their vigour till they are nine years old, and longer; some even till they are sixteen years of age; there are (he observes) certainly no good reasons why they should not be worked, as well as stallions, (and they are sometimes worked when strength is wanting). An old excentric grazier carried this experiment so far, as not only to work a bull in harness, but to saddle him and ride upon him.

Shoeing.—A brake is erected at Dishley for the purpose of shoeing oxen or heifers, or for farriery, a sketch of which is given under Farming Implements, which see. I understand a similar contrivance is in use in Wales, and other counties where oxen are much used, from which this is an improvement.

Oxen

Oxen compared with Horses.—Mr. Ainsworth has passed an indiscriminate enlogium, upon oxen being used instead of horses, and has ranked the change amongst the greatest improvements of agriculture; “they are, he says, equally tractable with horses, and may be purchased and maintained at much less expense, but custom and prejudice misguide the farmer; the very great consumption of oats and beans by horses, would be saved by using oxen only, which are preferable for a steady draught, as they always pull to their strength without flinching, horses on the contrary are apt to stop, when they meet with unexpected resistance; and as much land may be ploughed in a day with a team of oxen as of horses; in summer they require nothing but grass, in winter hay, or straw with a few turnips; their dung makes excellent manure, and an ox is not only cheaper, but fed much cheaper than a horse; if a horse happens to be lamed he is rendered useless; if an ox be disabled from his work he can be fatted for the shambles, and sold for more money than it originally cost; the stock of horses must be renewed every ten years upon a medium; oxen last for ever, or which is the same thing, he can be sold to the butcher when past his vigour for work, for more money than will purchase another. Horses require great attendance, oxen little more than giving them necessary food; the shoeing of horses is a great expense, of oxen a mere trifle. The advantage of using oxen would reach to all ranks of people, the markets would be filled with beef, which would lower the price not only of that article, but also of leather and tallow:” he then quotes Mr. R. Kedington, who says, “I have now completed my plan, and have not a single cart horse; but the work of my farm, which consists of 100 acres of arable land, and 60 of pasture and wood, is performed with ease by 6 oxen, together with my statute duty, timber, and corn carting, &c.; their harness is exactly the same as that of horses, except the collar

is reversed ; they are drove with bridles and bits in their mouths, and answer to the same words of the carter, or ploughman, as horses, and as readily. I plough an acre of land every day, and in less than 8 hours, a single man holds the plough, and guides a pair of oxen with reins."

"Oxen (he says) are of great antiquity, and have a noble appearance, and though the great Bakewell constantly used them, and most of our capital graziers do, yet the farmers are so prepossessed in favour of horse teams, they yet laugh at the method, consequently the alteration cannot be easily effected; the only method I can think of, is for gentlemen to encourage them as much as possible, and those tenants that will be persuaded to use them, to abate them a few pounds per annum, and those which are obstinate to their own and the public interest, to raise them in the same proportion."—*Mr. Ainsworth.*

On behalf of the farmers preferring horses, it may be observed, that Mr. Bakewell and other graziers have never used oxen generally, but only partially for light carting, having horse teams for their heavy work ; that the general preference here given to oxen, is merely theoretical, and it remains to be proved by experiment, that oxen are adapted for the dispatch necessary in modern culture ; that oxen were more in use in backward times, and are now more used in unimproved countries, is no proof of their being adapted to an extended and improved agriculture ; but the great mistake made by the advocates for oxen is, their supposing the great consumption of landed produce to be by agricultural horses, whereas that by horses kept for the road, the saddle, for coach harness, the army, and other purposes of commerce, luxury, pomp, and show, is much the greater half. I have upon a former occasion calculated it to be three-fifths of the whole, as these kind of horses are much higher kept than farm horses, and are

pretty nearly as numerous, a considerable number of horses have been constantly exported to Russia and other neutral countries, as well as with the army: our agricultural horses are therefore little more than a nursery for supplying those wanted for commercial and other purposes, and before they can be much reduced, it should be ascertained whether any retrenchment can be made in the other horse departments, and if not, how the demand is to be supplied; for I believe at present the farmers breed no more horses than they can sell to pay as well as other stock, and if the numbers in their hands were much lessened, the price of miscellaneous horses would rise in the same proportion.

It appears pretty clear that no horses can be spared from the commercial department, from the army, or from high life, or the gay world; unless oxen could be substituted in their stead, an alteration not likely to take place in the present state of society, the retrenchment can therefore extend no farther than farmers horses, which for reasons before given can only be in a small proportion.

Miscellaneous on Cattle.—Mr. Ferryman says, a good cow will continue to breed and to give milk till they are twenty years old; and Mr. Watkinson at Michaelmas 1796, sold a cow for £18. 7s. 6d. that was full twenty years of age; for near seventeen years in the milking season, this cow had given from ten to twenty quarts of milk per day; was in moderate condition when taken up, and only six months in fattening.

Feeding.—In feeding on grass, Mr. Ainsworth says, “it is best to stock heavier and change the pasture, as all animals, as well as man delight in change and variety; and being confined too long in one pasture, their breath, and feet, foul the herbage, and make it disagreeable to them, but by taking them out at intervals, there is time given for

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the atmosphere to sweeten and refresh it ; good old pasture is superior to all other for cattle."

As all animals love liberty, cattle should be fed in the field in summer, and in winter in their stalls or sheds, with new hay, Swedish turnips, mangel wurzel, &c. raw, but particularly with potatoes boiled in steam ; nothing yet found out exceed boiled potatoes in winter for all sorts of cattle, horses not excepted."

" In stall feeding, all animals should be kept somewhat cool ; this may be contradicted by some, that have been used to keep them warm, and formerly under the small-pox and fevers people were also kept warm, and some old women are yet loth to give it up, for some recovered, though some died : yet philosophy and experience have reversed the practice. The internal heat of a feeding animal is very great, its perspiration produces a warm atmosphere, its blood is in a fever, and if it were possible to convey a thermometer to the fountain of life, there is no doubt but the mercury would stand at an amazing height ; sweating wastes an animal, as is well known to jockies, who prove too heavy. I have often observed feeding hogs come from under their cover, and lay down in their court for hours together, in frost and snow, the thickness of their fat keeping them warm ; as the whales by their fat or blubber enjoy themselves in the Frozen ocean ; but the hinge turns here. Horses require to be kept warm ; their blood and their hides are thin ; but when beginning to feed, they should be kept cooler by degrees, till it terminates with a current of air ; a farmer, like a midwife, is only nature's assistant.

Note on Cattle.—In a farther conversation with Mr. Honeybourne at Dishley, on the subject of cattle, he still dwelt upon impressing the idea of the superiority of heifers

to oxen, except so far as the latter may be wanted for work; heifers are much superior in early ripening, and with the additional advantage of their milk, are much more profitable stock: a well bred three year old long horn heifer, he says, will, without having a calf be fat at grass only, and weigh 600 lb. weight the four quarters, which is 200 lb. of beef per annum. An ox at grass will eat much more and not produce so much weight of beef per annum. An heifer calving at three year old, may be milked six months, and fatted by four years old to 600 lb. weight the four quarters; producing as follows, in four years:

	lb.
The calf, at six weeks old, and pork from the milk	140
Cheese 360 lb. Beef 600 lb.	960
	<hr/>
Total	1,100
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This is much superior to the produce of an ox in the same length of time.

SECT. II.—SHEEP.

THE present sheep stock of Leicestershire may be arranged in three varieties; 1, the old Leicester; 2, the new Leicester; and 3, the forest sheep.

The old Leicester sheep are, I suppose, an improvement upon the ancient stock of the common fields, by crossing them with strong rams from the pastures of Lincolnshire, or by better keeping, in consequence of the enclosures, or both. They are a very respectable breed of sheep, large, heavy, and full of wool; but strong in the

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bone,

bone, and somewhat coarse in the pelt, and taking a good deal of time to fatten. This, or a similar breed, has spread over the inland counties of Northampton and Warwick, and are by some esteemed as a very valuable breed of sheep: they are in general larger and heavier than the new breed, and will sell when fat for as much per lb. to the butcher, and produce more wool; but most, if not all, the flocks of this breed have now got a dash of blood of the new and improved sort. The shear hogs of this breed have been sold in the fairs and markets in autumn, to put to turnips, at from 50s. to 60s. each, according to size and condition. The characteristics of the old breed is, their being coarser in make and fuller of bone than the new, thicker in the pelt, and fuller of wool, with larger head and bones in every part, and are seldom in equal condition in point of fatness. A good assortment of this breed is annually shewn at Leicester fair, Oct. 10th, both rams, ewes, shear-hogs, theaves, and lambs; some of the old full bone breed, and others, in different degrees refined and polished by crossing with the new breed. Rams for the season, of the old breed, one guinea to ten; ewes for sale, one guinea to three. Mr. Frisby, of Waltham, in some degree adheres to the old breed; his ewes were originally, from his own account, all of the old breed, and he has never hired a ram; but he has sometimes sent a lot of his best ewes to be ram'd at Mr. Bredon's, Buckley's, and other first rate breeders of the new school, of whom he speaks with due respect. He was some years ago a ram letter, but has since altered his plan, and now sells his rams by auction annually, Sept. 19th. He first selects what he chooses for his own use, and the remainder are exposed to his customers, by any one putting up which he chooses. In 1801, Sept. 19th, he sold 40 in this manner,

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the highest at 32 guineas, and the lowest down to 4 or 5 guineas; he was offered 50 guineas for one he had selected for his own use.

Mr. Frisby's flock was named to me, and Mr. Moses Miller's, of Kibworth, as two of the most celebrated of the old breed; the consanguinity of the former to the new breed is obvious, but the latter has, I believe, rigidly adhered to the old breed; his rams are large, heavy, and full of bone and wool, large enough, when fat to weigh 40 lb. per quarter, and to cut 12 or 14 lb. of wool.

Mr. Frisby informed me personally, that his connection with the new breed was several years ago, when having obtained the points he supposed he wanted, he has since stood upon his own bottom.

Fale of Belvoir.—Called on Mr. Hand, one of the Duke of Rutland's principal tenants, who keeps a large flock of sheep; he shewed me 2 two-shear wethers, which I estimated at 40 lb. per quarter; but I have lately seen as heavy or heavier of the new breed; I also saw the ram their sire, and the store ewes. Mr. Hand's flock is a cross between the new and old breeds.

Mr. King, who is the Duke of Rutland's steward, and very intelligent, gave me a variety of information respecting sheep and other matters: he says, the distinction, old and new Leicester sheep ought to cease, as every intelligent sheep master keeps that sort which best suits the land he occupies, and therefore very few but what have crossed accordingly; that the true distinction now ought to be, to call one the strong and heavy, and the other the fine and lighter breed; that upon all the stout rich deep clay feeding soils, the strong heavy breed succeeds well, and will make the most profit; that upon such lands, weight of mutton and weight of wool, are material objects for profit, and that both these objects can be well supported upon the

richest and best soils; and that no grazier who has land capable of supporting heavy stock would benefit by introducing lighter, but that even upon such land where the stock was grown too heavy and coarse, much advantage has been derived from crossing with the Dishley breed, by obtaining that form and those points that have in that breed so well succeeded.

That upon the inferior gravelly and shallower soils, of weaker staple, or inclining to sandy or lighter land, the lighter and smaller-boned breed is incomparably the best; upon such land this breed will load itself with fat, and grow to a great weight, whilst the heavy great sheep, with long wool, would not do at all.

That in the account given by Mr. Young, in his survey of Lincolnshire, of those townships which are stocked with the heavier breed, and those with the lighter, it almost universally occurs, that the former are upon the richer stouter lands, and the latter upon that of inferior staple, where the heavy sheep would not so well succeed.

Mr. Bakewell (whose farm and neighbourhood is not of the richest feeding staple, but generally a light, gravelly loam, or meadow land, composed of sediment from the upland, upon a decomposed peat), had penetration enough to see the defects of the old breed: he had observed, that in all flocks the moderate-sized, compact, small-boned sheep, were in the best condition, and soonest fat; he, therefore, with great judgment and perseverance, set himself to work to cultivate the desirable points, and do away the defects, and, by degrees, produced what has been called the new Leicester breed.

2. *The new Leicester breed of sheep.*—The origin of this breed has been variously traced and accounted for, but all agree in allowing the principal merit of its production to Mr. Bakewell, of Dishley. Mr. Ferryman, who has

has conversed on this subject with many of Mr. Bakewell's contemporaries, says, that he had formed in his own mind an ideal perfection, which he endeavoured to realize; and that with this view he, with unvaried perseverance, year after year, and at something more than a market price, selected from the flocks around him such ewes as possessed those points, which were most likely to produce the animal he wished for. The sheep of the old enclosures before that time were flat-sided, long legged, and somewhat coarse in their offals. To correct these defects was Mr. Bakewell's object. The idea thrown out by some, that this was done by crossing with the Wiltshire or Ryeland breeds, seems totally erroneous, fanciful, and void of foundation.

Mr. Ferryman says, about the year 1747, there were a succession of wet seasons, which occasioned a great rot in the rich deep clays, and in a short space swept away whole flocks. Some of the small and indigent farmers were ruined; but the more opulent and enterprising resorted to the high grounds near Fridaythorpe, in Yorkshire, where they purchased some neat small sheep, which, crossed with the few that remained in their own fields, produced some very useful animals. As the numbers bred for a long time afterwards were not equal to the demand, they sent year after year to the same market. Jobbers were established, who employed themselves in purchasing sheep on the Yorkshire wolds, for the use of the Leicestershire farmers and graziers. Mr. Bakewell engaged these jobbers not to offer their sheep to public sale till he had seen them, and had taken out such as he thought would best serve his own purpose. From these droves, or from the flocks so bred in his neighbourhood, and probably from a distant cross with the large broad-woolled Lincolnshire, he bred his first short-legged, square-framed sheep, which for a time were well received by the public.

Animated

Animated by his early success, he still went on breeding from his own, or crossing with any others that he judged most likely to bring his own nearest to his idea of perfection, by which means, and (in the opinion of one of the oldest breeders in the county), by a cross with the Durham sheep, by slow degrees he produced a form against which he believed no possible objection could be raised. Their offals are small, and their profitable points are large. Their backs are broad and strait, their breasts are full, bellies tucked up, heads small, necks short, legs thin, pelts light, and wool fine of its kind. They are quiet in temper and disposition, and capable of being fattened in a short time, on a small proportion of food, and to a great weight, in proportion to their apparent size.

These are what are known by the name of the new Leicester, in contradistinction to the ancient breed, or to the large sheep still in use about Melton Mowbray, and in the vale of Belvoir. Mr. Bakewell had once carried his refinement too far, at least in the opinion of the old breeders. About the year 1790, I heard one of his respectable neighbours say, he had like to have gone on till he had neither wool nor carcass, but was doing well now: it is well known, that he always kept his fattest inclined sheep for store, and sold the lean inclined ones (if any) to the butcher, contrary to former maxims. He was soonably seconded, and closely followed up, by many respectable neighbours, both in this and the neighbouring counties; Mr. Paget, of Ibstock; Messrs. Stone, of Quorndon; Barrow and Knighton; Mr. Knowles, of Nailstone; Mr. Astley, of Odstone; Mr. Burgess, of Hugglescote; Mr. Green, of Normanton; and many others with whom I am less acquainted in this county, were very early in their connection with Dishley, and it is remarkable, that their pre-eminence as ram-letters is, even now, nearly in proportion to

to the earliness of that connection; to these I ought to add Messrs. Stubbins, Breedon, and Buckley, of Nottinghamshire; Mr. Princep, of Croxall; and many others in these and the neighbouring counties.

Mr. Monk has observed, the leading idea is, to procure that breed which, on a given quantity and quality of food, will pay the most; and those people who have tried them are convinced, that the Dishley breed will live where many other breeds would starve; and that, the more beautiful the form, the hardier the animal is of every kind. Nothing can shew the high estimation this breed is held in, clearer than the high prices they have fetched lately at different sales. The following are some of the particulars of Mr. Paget's sales upon his narrowing his farming business.

Ewes belonging to Thomas Paget, Esq. sold by auction Nov. 16, 1793.

	Ewes.	Guineas each.	Guineas.
Lot 6	5	62	310 Mr. Buckley.
38	5	52	260 Mr. Pelkington.
37	5	45	225 Ditto.
5	5	30	150 Mr. Breedon.
17	5	30	150 Mr. S. Stone.
7	5	29	145 Mr. Bennett.
11	5	25	125 Mr. Bennett.
3	5	22	110 Mr. S. Stone.
9	5	22	110 Mr. Boyer.
2	5	20	100 Mr. Stubbins.
4	5	20	100 Mr. Tomelin.
14	5	20	100 Mr. Fryer.
15	5	20	100 Mr. Deverell.
18	5	20	100 Mr. Martin.
20	5	20	100 Lord Egremont.
16	5	18	90 Mr. Wingfield.
40	5	17	85 Mr. Meland.

Ewes,

	Ewes.	Guineas each.	Guineas.
" 12	5	16	80 Mr. Powrise.
23	5	16	80 Lord Egremont.
59	5	16	80 Lord Harborough.

By private contract before the sale.

30 ewes, at 20 guineas each, 600 guineas, Mr. Simpson.

N. B. Lots 37, 38, 39, and 40, were thaves.

It is to me wonderful, that 130 ewes should fetch an average of twenty-five guineas each, and all of them the property of one man.

The following paragraph (which, in my opinion, elucidates the value of this beautiful species in a very high degree,) I took from the Leicester paper :

" TO THE PRINTER.

" In your paper was lately advertised to be sold, by Mr. Boot, on the 20th and 21st of September last, the stock of Nathaniel Pierce, Esq. the sheep of the new Leicester-shire sort, and the neat cattle from the best sort of the long-horned breed.

" In an advertisement of the stock of C. Cartwright, Esq. also to be sold by Mr. Boot, on the 7th instant, it is said, the neat cattle are of the best sort of the short-horned breed, and the sheep of the true Lincolnshire sort descended from rams bred by Charles Chaplain, Esq. and Mr. Bartholomew.

" Produce of each sale, with the difference.

	At Mr. Pearce's sale.			Mr. Cartwright's.			Difference.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
" Best score of ewes,	166	19	0	27	0	0	139	19	0
" Ditto wethers,	50	11	6	29	0	0	21	11	6
" One bull and 4 cows,	331	5	6	38	15	0	292	10	6
" Bull-calf (10 days old)									
" out of one of the									
" cows, £42.									
" Three yearling heifers,	63	0	0	8	8	0	54	12	0
	£611	16	0	103	3	0	508	13	0

Many

Many people have an idea, that this breed is at its highest pitch, and that the prices will soon fall; but at present I do not think it likely, at least while men flock from distant counties, and give such high prices, neither would these people come a second and a third time, if they did not find their account in it. I heard a person, from a very distant county, offer thirty guineas a piece for ewes at Mr. Paget's sale; and I heard, from very good authority, that one of the first breeders had refused a thousand guineas for six ewes. From this the price of the breed does not appear to be falling.

In a conversation with one of the first breeders in respect to the wool of this breed, he said, people were mistaken in their ideas about it. He allowed that the Lincolnshire sheep gives a greater fleece, but that a given quantity of land will maintain a greater number of the Dishley than of the Lincoln sheep; by which means there will be a greater quantity of wool produced upon a given space of land; this gentleman was also certain that a given space of land would maintain one-third more of the Dishley breed in number, which would likewise produce a greater weight of mutton per acre than any other breed.

This breed of sheep, though not large in appearance, will fat to a great weight; especially if kept to a full age, as they still continue laying on fat upon the ribs and every part of the carcass. It is well known, that Mr. Bakewell has fatted mutton to six inches thick of fat upon the ribs, where the quarters are separated; and I have seen a shoulder of mutton of solid fat, with scarcely a streak of lean upon it to be found, and they will become equally fat with bacon; but though they are capable of this, it does not follow that they need be fatted to that degree; by hard stocking they may be kept down to what degree the owner chooses, and, in a moderate state of fatness, they are remarkably

markably fine grained, mild, and sweet; and I think the mutton quite equal to that of any breed in the kingdom.

Mr. Ferryman observes, Mr. Bakewell and others have been at great expenses in fattening their own sheep against the sleep of other counties; but the result of these experiments have been withheld from the public; the society when assembled, said only, that if a fair and unequivocal trial was proposed, they would send a given number of sheep to be fattened against a like number of any other breed; they wished that two pieces of ground should be allotted equal in quantity and quality, in the opinion of competent judges; that they should put upon the one piece of pasture a certain number of sheep, and that a like number of any other breed should be put upon the other piece; and, that at a fixed time, it should be determined which had laid on the most meat, and left the greatest quantity of food upon the ground: this proposal he thinks very open and fair.

Mr. F. thus describes the new breed: "Their forms are very beautiful, colour white; flesh fine grained and well flavoured; tallow little, as not advantageous to the grazier; pelt thin; number kept per acre difficult to ascertain, as they are generally fed with other stock; they are never folded; fat weathers (when shear-hogs) will weigh about 25lb. per quarter; fat ewes about 22lb.; wool fine, average fleece 7lb., without horns, and the time of lambing March and April."

Mr. Ferryman says, "Mr. Bakewell was certainly the first breeder, both in priority of time and in reputation, and we may naturally expect to find the best breed, and the most celebrated breeders, in the neighbourhood of Loughboroug; but there are now many other famous breeders at a distance, both in this county and in Nottinghamshire, Warwickshire, Northamptonshire, and other counties,

counties, who have for many years been pursuing the same plan, and who think they have as good a claim to the attention of the public." He also says, "Mr. Bakewell was frequently shewing sheep of great fatness, but he has not left any accurate particulars."

Mr. Ferryman gives the following account of the Ram Society and the Associated Breeders: "I find that there is but very little knowledge to be drawn from them, and even that little must be admitted with extreme caution, for they are divided into two parties, each jealous of the others, but still more jealous of the public; the allowed beauty of their sheep, the symmetry of their parts, the quietness of their dispositions, and their aptitude to lay fat upon the most profitable points have gained them such a degree of celebrity, as to enable their possessors to exact from the public large sums annually for the use of their rams. A certain number of these breeders have formed themselves into a society, or rather entered into a combination, and bound each member, by heavy penalties, to the observance of such rules as they imagine will maintain the superiority of their breed, and continue to themselves the advantages of it unrivalled and undivided."

"The late Mr. Bakewell bound himself, and his successor, Mr. Honeybourn, binds himself, not to engage nor shew his rams to any person, till the members or the society have seen them and are supplied, and not to let a ram to any person within fifty miles of Leicester for a less sum than fifty guineas, for which, and other privileges, the society pay a large annual sum; and Mr. Honeybourn, as well as every other member of the society, confine themselves not to sell, nor to let their ewes at any price, nor to show their rams at any public fair, nor at any other place than their own houses, and that only at stated times, from the 8th of June to the 8th of July, and again from
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ten to a hundred guineas ; and that year he let two-thirds of a ram (reserving one-third to himself) to two breeders, for a hundred guineas each ; the entire services of the ram being rated at three hundred guineas. Mr. Bakewell made that year, by letting rams only, more than one thousand pounds. From thence to 1789, the prices kept rising ; 400 guineas was repeatedly given. In 1789, Mr. Bakewell made 1200 guineas by three ram-brothers ; 2000 of seven rams, and of his whole letting, full 3000 guineas. Six or seven other breeders made that year from 500 to 1000 guineas each ; and the whole amount of ram-letting was that year about 10,000*l.*—*Marshall.*

From that time to the present, 1807, the numbers have encreased much more than the prices, but the spirit of enterprize amongst the breeders remains undiminished, and their connections are much more widely extended ; from 60 to 100 guineas has, to my certain knowledge been repeatedly given for the use of a ram one season, into Staffordshire and Worcestershire, by farmers who have found their account in so doing, by the great improvement made in their flocks. Numbers of rams are now sent from Dishley, and by Mr. Stubbins, Astley, and others, annually into Ireland ; in Sept. 1806, six of the Dishley rams, with the shepherd attending them, were unfortunately shipwrecked on their passage to Ireland, in the King George packet, and all lost. Messrs. Honeybourne, Stubbins, Astley, and others, now make regular annual excursions into Ireland on the above speculations.

The following particulars and facts respecting sheep, were given me by Mr. Astley, who is himself an eminent breeder, upon an extensive occupation, and whose veracity is far above suspicion : That in 1795, he (Mr. Astley) gave 300 guineas for the use of a ram, distinguished by the name of *Magnum bonum*, being a shear-hog sheep, the

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property

property of Mr. Breedon of Ruddington, one of the Ram Society, and had twenty of Mr. Breedon's ewes with him, the serving of which was valued at 120 guineas; total value of the ram for that season 420 guineas; that, in 1796, Mr. Astley gave for the use of the same ram 300 guineas, and had forty of Mr. Breedon's ewes with him, the serving of which was estimated at 200 guineas; total value of the ram for this season 500 guineas. He was this season judged capable of serving one hundred ewes; the year before, when a shear-hog, he was allowed no more than seventy ewes.

In 1797, this ram was let elsewhere at 300 guineas, and twenty ewes sent with him, the serving of them valued at 100 guineas, and confined to not exceed sixty more; value for this season 400 guineas; thus this ram has made in three seasons, the enormous sum of 1300 guineas.

In one of my excursions into Leicestershire, Mr. Astley shewed me forty ram-lambs; got by this ram in one season; they had been all reserved, and were kept in pasture, in lots of ten each; many of them were expected to make capital first rate rams.

Mr. Astley has since then offered 400 guineas for the use of a ram to Mr. Stubbins, which was refused: I saw Mr. Stubbins's letter, in which, in the most decisive terms, he refused to take less than 500 guineas, and in consequence Mr. Astley resolved to use two of his own shear-hogs instead, which he could have let at 150 guineas each. I was afterwards informed by Mr. Astley's bailiff, that Mr. Astley having a little set his mind upon this ram, had sent him to make the best bargain for him he could, which he had concluded by agreeing to pay 400 guineas down, and to take twenty of Mr. Stubbins's ewes with the ram; the serving of which, and eighty of Mr. Astley's, was estimated at 500 guineas.

Mr.

Mr. Astley informed me, that he had rather give 500 guineas than a less sum for the use of a ram which he thought deserving of it; also, that those who have given the highest prices for the use of rams, have generally made the most profit by letting; and also, that no ram has been yet produced that has been thought perfect in all points; yet so nicely and critically similar are the ideas of different breeders, that from a number of rams, the same individual one has been selected as the best, when separately examined one by one, and without comparison, by a number of judges, and that in a great many instances; yet the similarity and analogy is so close, that without the nicest skill both of eye and hand, no difference in point of merit could be observed.

The terms of the connection between the Society of Ram-breeders and Dishley, which is still looked up to as the fountain head of the breed, is kept a secret; but I have been informed, that the said society for the choice of a given number of rams, and upon the conditions before named, pay 3000 guineas per annum; after which they are at liberty at Dishley, complying with the conditions, to make what they can by ram-letting in common with others.

These high prices have occasioned much speculative conversation, and many persons have suspected, and declared their suspicions, of some collusion amongst the breeders, who have been charged with a combination amongst themselves, and a pretence of giving high prices, at the same time returning a great part of the money, to the delusion of the public, who may thereby have been drawn in to give exorbitant prices, in imitation of others; but this suspicion is now, I believe, entirely done away, and the charge universally believed to be fallacious, without foundation, and a slander upon those to whom it is applied; in which opinion I entirely concur, having never

observed amongst the principal breeders any thing but the greatest candour, liberality, and fair dealing: I have more than once made journies amongst them in company with friends and acquaintances, who were farmers and sheepmasters, unconnected with the breeders; the object to see their rams and other stock, and to engage with them for improvement, when I heard many instances of their refusing for secondary rams 60, 80, or 100 guineas for the season, with as much indifference as any other person refuses an offer which he conceives below the real value of the article; and the person making such offer was given to understand, that he was at perfect liberty to apply elsewhere, or return there again and bargain or refuse at his option; nor could I observe the least eagerness or desire in the breeders to close with or accept the offers of any person bidding ever so liberally, if less than what was supposed the real value, however high the offer, more than in any other person who has an article to dispose of; also, at the same time, their customers and visitors are received with every politeness and attention; and I had several instances of such sums as those before mentioned being refused, and no bargain made between the parties.

Among other instances of 500 guineas for the use of a ram for the season, I have the following one: four other breeders have agreed with the owner of a prime ram to pay 100 guineas each, for the serving of twenty ewes each, and the owner, in like manner, is to have twenty ewes served, which is also valued at 100 guineas, making 500 guineas in the whole; from this sum there are rams for the season at all prices down to five guineas; and as one ram will, with proper management, serve one hundred ewes, the serving of the ewes at these prices is from five guineas to one shilling each; and at this latter price, I was informed by some of the smaller farmers, that they could get their
ewes

ewes served by well bred rams; and if one farmer had not ewes enough, two or more neighbours sometimes joined, and that they found their account in it much better than in keeping rams for themselves, and their flocks were visibly annually improving by this annual dash of the new Leicester blood.

To explain in what way it can possibly pay or answer to give 500 guineas for the use of a ram for one season, either by one or more persons, it must be observed, that it can answer to no other person than to a speculator in rams. If in the above instance the five persons concerned have twenty ewes each, good enough for ram-breeding, then they have a good chance, reckoning twin lambs, of each rearing ten rams and ten ewes, or more, of a still higher blood: suppose these ten ram-lambs, when shear-hogs, are let out at 20 guineas each upon the average, this would be 200 guineas each, or 1000 guineas, being twice their money again, which, with the improvement in the ewes bred also, would be a great profit upon the speculation, and sufficient to encourage the breeder to go on.

As the very high prices are seldom given, except by those who either are, or intend to be, speculators in rams, if the subject be considered, the wonder will at once cease. A neighbour of mine with a pretty good flock of ewes, began with giving 60 guineas for a ram for the season, from which he got from eighty to one hundred lambs, of a better sort than he had before, and after serving himself with some of the choicest ram shear-hogs, he lets a dozen at five guineas each, or as many in any other way as comes to the same; he has then his money back, and the serving of himself and improvement of his breed into the bargain; and he has since found it his interest to procure one or more rams annually from Leicestershire at still higher prices; and, respecting the common farmer, it may easily be conceived,

that five guineas can be no great object to any one for the use of a superior ram, from which eighty or an hundred lambs may be obtained. Another gentleman in our company, who offered 70 guineas for the use of a ram for the season, was refused, except on condition of his breeding no rams, but ewes and wethers only; this he refused to accede to, and the bargain dropt; and the reason for refusing his offer, except conditionally, was his living too near the ram-letter, so that his becoming a breeder might possibly interfere with the person from whence he drew his stock, on which account not less than 100 guineas would be accepted.

The superiority of the rams of this breed is now established beyond a doubt; their disposition to fatten is visible on every point; the whole length and breadth of their back is loaded with fat; the rump, bosom, and flank, contain it by handfuls; every part of them handles sleek and mellow; they have no coarse meat nor offal about them. Mr. Bakewell remarked, very early in his improvements, that the butchers made no distinction between his fat rams and wethers, but took them at the same price; this is certainly true of the breed, as I have frequently seen rams with only a dash of it, so ripe and fat, and that without any particular pampering, that when slaughtered, no one, without a nice examination, would have thought of any other than wether mutton; at the same time, rams of the common or coarser breeds, in their coarser parts, appeared more like carrion than mutton, and the butchers could not make of it above the half, or two-thirds, of the price of prime meat. The new breed are also withal light and alert, and sure lamb-getters. I believe no person who will examine and compare them with other breeds can deny their superiority.

In order to enable one ram to serve eighty or a hundred

ewes

ewes they are not all put to him promiscuously, but a few at a time as they become in use ; this is ascertained by an inferior ram employed as a teaser, but with a patch, or piece of cloth sewed before his genitals, in such a manner as to prevent any possibility of his serving the ewe ; when a ewe is singled out by the teaser, it is taken to the ram, and when served taken away again, this last is ascertained by raddling the ram in the bosom, with which he marks the ewe as he serves her, the waste of power and ability in the ram is thus prevented, he having only a few ewes with him at a time to keep him company ; the attendance of a trusty shepherd upon the best flocks of this highly improved breed, upon this and many other occasions must be obviously necessary, and as the wages of a man bears a very small proportion to the loss by an accident happening to only one sheep, no business can possibly pay better for such attendance.

The high prices that have been given for ewes is on the same principle, not merely with a view to mutton and the butcher, but to a speculation in the breed, for the better the ewes the better lambs may be expected, and a person by this means may get several years forwarder, than by the slow progress of improving his own stock by ram hiring only, and as the breed is by no means supposed yet in its highest perfection, he who once gains the lead may by due attention keep it, and by this means the Dishley stock has maintained its superiority, although many others in the county and neighbourhood are pressing closely after them.

Mr. Stone of Barrow, this season 1807, has 160 very capital ewes put to the ram ; they are served by a capital ram of his own, and by a shear-hog from Dishley. Most of the principal breeders, and particularly those of the Ram Society, have a ram annually from Dishley. All the principal ram lambs of the best blood are saved for stock.

Mr. Stone has about 40 of the present year, they were in October put in four pens upon summer cole, each pen seven hurdles square, containing 10 ram lambs; he was making off to the butcher nine rams, which he had to spare, which in most countries would have been reckoned capital ones for getting stock; but he informed me that the members of the society are limited not to let more than 30 rams to any individual member in one season, and he had his number, which he preferred to these, but could let more, were it not for that rule.

He also assured me, that he and his brother had, *bona fide*, let a ram at 400 guineas, without any deduction or drawback, which I was at liberty to state upon his authority; that they were still endeavouring annually to improve their flocks, and with a success, in their own opinion, and that of the world, that would induce them to persevere in the same course.

Lord Moira's breeding flock at Donnington Park, October 1807, consisted of 120 Leicester ewes, and 20 Southdown, the latter kept for variety, comparison, and the supply of his lordship's table; they were each sort served by rams of their own appropriate breed; the Leicester rams being hired annually, they have given as high as 30 guineas for the season: besides which, they have two respectable new Leicester rams of their own, and one Southdown, also an Egyptian ram, sent as a present and kept for variety; he is carefully kept from the breeding ewes, being an uncouth animal, nearly as much resembling a goat as a sheep, and if of the same species with our English sheep, I should suppose him as much degenerated from a state of nature, as the new Leicester breed are improved; a greater contrast can hardly be conceived.

Mr. Ferriman says, "Mr. Watkinson of Woodhouse killed three ewes, that averaged near three-fourths their

weight of marketable flesh, and no unusual length of time was allowed, nor extraordinary means employed in fattening them; he does not give the live weight, but the following dead weight of one of them.

	lb.	oz.
Carcase - - - -	144	0
Fat - - - -	15	8
Wool and Pelt - -	16	0
Pluck - - - -	4	8
Entrails - - - -	10	4
Blood - - - -	6	0
<hr/>		
Total	196	4
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Twenty pounds gross weight gives 14 lb. two-thirds in carcase nearly; a shoulder of the same ewe cut in the usual manner weighed 19½ lb. the bones of the same shoulder weighed only six ounces.

Mr. Monk gives the following particulars of a wether sheep, of the Dishley blood, bred and fatted by Mr. Burgess of Hugglescote, and adds, Mr. Burgess was so kind as to send me a haunch of it into Devon, with the particulars of the weight of the whole sheep as under.

	lb	lb.
Carcase - - -	144	or 36 per quarter.
Fat - - - -	16½	
Skin and Wool -	18	
Pluck 4¼ lb. Head 4¼	8½	
Guts and Paunch -	3½	
Blood - - - -	5	
<hr/>		
Total	195½	

rather more perfect than the last, in which the head seems

to

to have been weighed with the carcase, but in this with offal; but in the last the paunch seems to have been much more emptied, or the contents not weighed.

Mr. Monk adds, "the haunch weighed 24 lb. which I sent to my butcher in Kingsbridge, to be hung up, (and a ticket fastened to it with the above particulars) for the inspection of the farmers (on a market day) in this part of the world. It was very much admired by every person, and I am certain the shewing of it has done more service to this excellent breed, than my talking to them for seven years would have done. Several gentlemen were of opinion, that it was the best mutton they had ever eaten, the bone of the haunch weighed only 13 ounces and a half; my butcher declared it had not so much offal as one he killed the same day, which was no more than 12 lb. per quarter.

The following particulars were given me by Mr. Stone of Barrow, of the sale of breeding and shearling ewes, and rams, the property of John Wingfield, Esq. sold by auction by Mr. Boott, on the premises at Pickwell, Leicestershire, in June and September 1807.

	£.
Forty rams sold in June made upwards of	-
One lot of ewes sold at 12 guineas each	-
200 ewes and theaves, averaged five guineas each	1050

This flock had been bred within the last 20 years; the original stock were 20 ewes, brought from the flock of the late Mr. Hall of Coates, others were purchased at the sale of Mr. Smith of Hathern, Mr. Gilbert of Coats, and Mr. Pearse of Bronipton, together with 40 procured by the assistance of Mr. Paget. The only rams used have been two hired of Mr. Bakewell, one of Mr. Breedon, two the produce of Mr. Gilbert's ewes, by a Dishley sheep, one of Mr.

Mr. Tomlin and one of Mr. Farrer ; the whole produce for the last 16 years has been by chosen rams, hired of Messrs. Stone of Quorndon.

Mr. Ferriman says, " it seems to have been the practice of the associated breeders, (of late years, and I believe it was that of Bakewell) to put those sheep together which are most perfect in shape, without regard to affinity in blood ; their forms may by this means be most readily preserved and improved, and at first perhaps it may not do much injury in other respects, but if it is persevered in, it will no doubt in time, abate the vigour, weaken the constitution, and shorten the natural term of their lives, which is already partly admitted by the Leicestershire breeders themselves ; the old Leicestershire rams, those rough, coarse, hardy animals, they say will retain their vigour, and continue to perform an almost unlimited quantity of business, to nine, ten, or even twelve years old, whilst the high bred, pampered, delicate, new Leicestershire, are generally worn out at four years old, even though their business is limited ; (they however often serve one hundred ewes in a season). In support of this apprehension, many other analogous reasonings might be adduced from the breeding of fancy pigeons, game cocks, greyhounds, running horses, &c."

He thinks " there is no better method of encouraging a good breed, than by soothing the weakness, flattering the vanity, and gratifying the avarice of human nature. Public commendations and large prices will naturally induce men of enterprize and skill to exert their utmost abilities to excel one another in the beauty and usefulness of their stock ; and perhaps the most useful sort to those who breed for the butcher (the only rational ultimatum) is the new Leicestershire crossed with those of a more hardy nature, as the best old Leicester, or the Southdown, which appears in common practice, and more abundantly by some deci-

five

sive experiments, made in the years 1795 and 1796, by the Right Honorable the Earl of Egremont, wherein the former appears to give shape, the latter constitution and hardness.

It is related, that a gentleman said to Bakewell, your mutton is so fat that I cannot eat it; and that Bakewell replied, Sir, I do not breed mutton for gentlemen, but for the public; but even my mutton may be kept leaner, to suit every palate, by stocking harder in proportion, and by killing the sheep in time.

3. The third variety of sheep in Leicestershire are the forest sheep; these are principally confined to Charnwood, and are now some white and some gray faced, with legs of the same colour with the face; covered with a bastard, or coarse combing wool, mostly pollard, but some with sprigs of horns. Mr. Bakewell was of opinion, that this forest, as a sheep walk, was a real loss to those who had a right upon it; for if one man who has this right turns sheep upon it in the spring, and another gives a farmer a fair price for the keep of the same number of equal value, and if both flocks were driven to market at Michaelmas, the difference of price would more than pay the expense of the keep, and that this would hold good either in sheep or cattle.

Wool.—Lord Moira's wool of 1807, was sold, the Leicester at 27s. the tod of 28 lb.; the Southdown at 40s. for the same weight, the former about four, the latter eight or ten fleeces to the tod. Mr. Stone informed me that the best Leicester wool had brought 30s. the tod, whilst the coarse Lincoln was hardly worth 21s.; the average of Leicester fleeces, taking in the strong boned sheep around Melton Mowbray, and in the vale of Belvoir, are, I suppose about four to the tod; but Mr. Stone says, the improved Leicester sheep will not average so much, and probably it requires five of their fleeces to the tod; and he
says

farther, that the growth of heavy wool, and the most mutton are incompatible, and that the true criterion of either, or both, is not by the head but by the acre.

Folding, of sheep is not practised in Leicestershire, or at least but little, except in the few remaining common fields; the only instances I met with of it, was a Queeniborough, where Mr. Grahame folds 200 upon his wheat fallow in dry weather, and sometimes gets over 15 acres in a season; he believes that it injures the sheep, but assists the fallow; for particulars of folding in the common field state.—SEE CHAP. VI. ENCLOSING.

Food.—Mr. Ferriman says, the sheep in the old enclosures are bred, reared, and fattened through the whole of the year, upon natural grass, without assistance from turnips, cabbages, or any other food, except a little hay in very severe seasons; in the newer enclosures, near the river Soar, and on the west side of the county, sheep are fed in summer upon old pastures, and towards autumn upon artificial grasses, generally red and white clover, and trefoil mixed; in the winter upon turnips, kept grass and hay, and sometimes cabbages; but these latter are found not to yield so much nutriment, as an equal weight of turnips; in the spring they are kept upon stubble turnips, hay and kept grass, and afterwards upon ray-grass, and early pastures. Mr. Bakewell frequently fattened his sheep in stalls, and Mr. Honeybourne reports that they were generally reconciled to their confinement, and began to feed in three days at most; but farther than this he knows not, or is not inclined to communicate.

Mr. Monk states, that Mr. Bakewell carried on experiments for three years, to ascertain the proportion of food eaten by different breeds of sheep, in proportion to their weight, which all tended to shew the great superiority of the Dishley blood. I flattered myself he would have

have permitted me to have taken a copy of his minutes, but I was disappointed. Mr. Bakewell offered to lend me some of his sheep to make the same experiments, but my non-residence prevented my having that pleasure.

Mr. Ainsworth says, sheep should be fed in summer upon the varieties of common grasses in the field; in winter on the Swedish turnip, and cabbages, and should have open covers, to shelter them in the night, littered with straw to preserve thir dung, &c.

In addition to these resources for keeping sheep, Messrs. Stone, and other principal breeders upon arable farms, sow rye, or cole seed upon early oat, and other stubbles, for feeding ewes and lambs, or other sheep in April; also fallow cole is sown for rams and ram-lambs, and other choice stock, the beginning of winter or the autumn months; they are either folded in it, or it is mown and carried to turf land; another principal resource for the rams early in spring is the Swedish turnips, which are then washed clean, and cut in slices by Hanford's machine, and thus given in troughs, to rams, or other prime stock. Mr. Stone's shepherd informed me, that three bushels per day are thus given to 10 sheep; they are very nutritive, and keep the sheep in good condition, at this scarce time of food; I believe a little cut straw is sometimes added. It appears from some experiments by Mr. Fowkes of Rothley, that cabbages as food for sheep, are not equally nutritive with turnips; he found that a certain weight of cabbages, did not lay on so much flesh as an equal weight of turnips; this fact agrees with the theory of Dr. Darwin in his *Phytologia*, who describes the scale of nutriment in vegetables to be thus; 1, 'their seeds or kernels; 2, their fruits and roots; 3, the alburnum or bark; 4, their flowers, as those of the artichoke, cauliflowers, &c.; 5, immature seeds
with

with their husks, as kidney beans; 6, flowers after their expansion, and 7, leaves.

October 8th, Loughborough. Mr. Honeybourne a few days ago turned 100 lambs at large into a piece of Swedish turnips, to eat off their tops, which they are doing without touching the roots; the tops afford a great deal of keep, and he supposes the roots will receive no injury, and send out fresh shoots; he is thus saving his pastures against winter.

He sometime ago turned a lot of lambs at large into a piece, containing summer cole, Swedish turnip, cabbages, and common turnip alternately; they began, 1, on the cole; 2, on the tops of the Swedish turnip; 3, on the cabbages, and at the end of three weeks had not touched any part of the common turnips, nor the roots of the Swedish.

The general idea here is, that the most nutriment is received from 1, cole and 2, Swedish; and by Mr. Fowkes's experiment the common turnips should come before cabbages, however, I have no doubt but the most nutriment of the four, is from the roots of the Swedish, which in the above case were protected by their hardness.

Kept grass, has been named as a food for sheep, and it is a practice with the best managers, to shut up in September a piece or two of pasture land (being then eaten down level and bare) to the spring following, for ewes and lands; or if for cattle until the first shoots of grass, mingling with the autumnal herbage, is found to render the whole more wholesome and nutritious to stock, than either of them would be separately; and this preserved pasture is more to be depended upon, as a certain and wholesome supply of early spring food, than turnips or cabbages; though the Swedish turnip from its certainty of standing the winter, has rendered a less quantity of kept grass necessary

cessary: I understand that this pactice succeeds better on upland pasture, than on meadow aftermath.

All dry and warm soils are healthy for sheep, as cold and wet ones are injurious. I forgot to name in its proper place, that it is very general in Leicestershire, to cloath rams for a few weeks after shearing, with a yard of flannel, to keep them from taking cold; this jacket with care will last three or four years.

There is no objection to turn sheep in watered meadows in winter, or at any time between the first frost, and the time of haying up for mowing; ewes and lambs are therefore sometimes so grazed in the spring, in a scarcity of food, but in warm weather it is believed, it would infallibly give them the rot.

Mr. F. says, "providing water for sheep does not appear to have been sufficiently attended to, it is every where believed to be necessary in hot weather for all sheep, particularly those which suckle lambs:" I saw some instances of a narrow stone trough, fixed in a hollow drain, and the ground lowered down to it gradually on either side. I think this a good plan where practicable, for watering sheep, or any other kind of stock.

Management.—The ewes are put to the ram about Old Michaelmas, (Oct. 10) and being reckoned to go with young about 20 weeks, will thus begin to lamb early in March; the young ewes, provincially here theaves, are first put to the ram at about 18 months old, but a little later in the season than the older ones, as it is not desirable for them to lamb before April; when they are near lambing time they are drawn from the flock, into some small enclosures near the house, where they can be more closely attended, and a few cabbages or turnips strewed about; great attention is now necessary from the shepherd, as the
loss

loss of a lamb of this breed, even in a moderate flock, cannot be less than a guinea loss; the ewes in this state must be often seen night and day, as assistance is frequently wanted, and if not at hand the life of both ewe and lamb are endangered, although the improved breed is supposed to bring forth easier than the coarser breeds, from the fineness of their shoulder bones; yet as the legs sometimes come wrong, they cannot then lamb without assistance, if neglected in that state, both dam and lamb must be lost.

This breed of sheep, especially the young ewes, are often bad sucklers, and if the young lamb should be weakly, and can get no nourishment, and the air should be very cold and sharp, he will soon perish; one criterion of a good shepherd is he who loses the fewest lambs, in proportion to his number, and rears the most, and this has in some places been very properly made the subject of a premium; with good management and attention, 100 ewes of this breed should rear 120 lambs, and so in proportion; the shepherds are sometimes day labourers paid by the week, and sometimes servants in the house, hired at about eleven or twelve pounds per annum.

House lamb, is not known in Leicestershire, and but few from good flocks fattened upon the ewe; the he lambs for wethers, are castrated at about a month old, and the operation is performed by slitting the scrotum, and drawing out the testicle, it is customary at the same time to cut their tails, conceiving that the loss of blood at that point, contributes to lessen the inflammation in the scrotum, and it is further thought, that when they are grown up, they are less liable to collect dirt and to be blown with flies.

Slipping of lambs is thought accidental; turnips are judged less proper for breeding ewes, than some other food, as picking at kept grass, rye, stubble cole seed, cabbages, or

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early

early spring grass; lambs are very rarely shorn, nor other sheep but once a year.

The young wethers, here called shear-hogs, are put to good pasture at one year old, after the first shearing, and killed at or before they are two years old; the new Leicestershire on good keep in mild seasons are soon ripe, some are killed at fifteen months and much earlier; a good many are sold out of the county at Michaelmas, to put to turnips, keep on and finish in other counties.

The average profitable weight is about two-thirds of the live weight, there are instances of a greater proportion, as in the cases before stated, wherein it approaches nearly to three-fourths.

The most common marking is tar, grease, and ruddle, but it is in a small degree injurious to the wool, on which account the best graziers content themselves with ear marking. Small sheds of hurdles are erected for the best rams, and covered with hurdles and straw; in most other cases the hedges are thought sufficient shelter, though it is very probable great advantages might be derived from light moveable sheds, properly constructed for other sheep.

Various are the contrivances for washing of sheep. Mr. Bakewell had a sheep wash boarded round, and supplied with water from a main carrier used for floating land; in other cases they are washed in a running river, or large pond, but it is agreed on all hands, that a small supply of fresh water, is better than a strong current; when the water is a little turbid by the sweat from the wool, it scours better, than when it is perfectly clear and bright*.

Very

* Artificial pools for washing sheep are formed upon small rivulets, by making a dam across in a convenient place, with a flood gate in the middle, by which the water can be ponded up for the occasion, and let

Very skilful hands will shear sixty sheep in a day; but from twenty to thirty is reckoned a good day's work; the fleeces of some of the old breed would weigh 12lb. but the new Leicester do not average more than half that quantity. If wool is well managed, wound up tight, and put close together in a dry room, it will keep for three years or more without much loss in weight, or damage in quality: it is sold to wool-staplers by the tod of 28lb.; a part is manufactured in the county into stockings, but the greater part is sold in Yorkshire, for coarse cloths and tammies.

Mr. Ferryman says, about thirty years ago smearing was tried by a few, for two or three years, and then discontinued.

I asked Mr. Honeyborne for chemical secrets respecting sheep, and if he had any respecting preventing the fly-blow, and maggots, or destroying them when produced; but he says he had none, but that he depends upon care, and good shepherding; in short, that he prefers care to chemistry.

Mr. Frisby, of Waltham, recommends, and practises, the dipping of lambs in arsenic water, to kill lice, and prevent the attacks of the fly; a pound of arsenic is boiled well, and dissolved in soap suds and water, then poured into water in a tub, and farther diluted with water, to a proper warmth and quantity, so as to be sufficient for twenty lambs; in this solution the lambs are immersed singly, and laid in a rack on their backs over the tub to drain, squeezing the moisture out of the wool by hand; two or three persons will dip thirty in an hour: the proper time imme-

let off at pleasure; on one side a pen is formed, and on the other a paved path for the sheep to ascend; they are also in some places washed in a roomy stagnant pond, where the bottom is sound, and the water clear enough for the operation.

diately after shearing the ewes; one dipping destroys all their lice or ticks, and generally preserves them through the summer from the fly or the maggot; this account was corroborated by two or three of his neighbours, who are in the same practice. I believe care should be taken not to dip the lamb over head, so as to swallow the solution. Mr. Frisby reckons his fleeces from three to three and a half to the tod.

Distempers in Sheep.—Mr. Ferryman states, that two spoonfuls of spirits of turpentine to each sheep were given by Mr. Woodroffe of Leak, to part of his flock, which he thought were in danger of suffering from bad weather, and unwholesome keep; many of those which had not the turpentine died of the rot; all which had it escaped. What gave occasion to Mr. Woodroffe's experiment I know not; but it appears from some letters of Dr. Jenner, published by Dr. Beddoes, that hydatids, are found more or less in the lungs of almost every adult, both of men and quadrupeds; whilst the animal is in health, they are not injurious, but if made weak by unfavourable seasons, unwholesome diet, or any other cause, then they become more active, work their way deep into the lungs, and surround themselves with a horny cyst, the part becomes diseased, tubercles are formed, and the chief springs of life soon injured and destroyed; seated as they are deep in the lungs, and guarded with a horny coat, it must be difficult to assail and dislodge them; nothing seems at present more likely to succeed than some kind of factitious air, or spirits of turpentine, for nothing enters more readily into the circulation, and pervades the whole frame more completely: the urine of carpenters who work in fresh deals, is sometimes very sensibly affected with turpentine. Dr. Jenner directed a patient of his to wash his hands in spirits of turpentine, which brought away a number of hydatids in the urine,

urine, and gave relief; if such then is the cause of the rot in sheep, and the other facts being as here stated, may we not reasonably indulge a hope of some day or other knowing a cure not only for the rot in sheep, but for pulmonary consumptions: this subject is yet new, but it is in able hands; and I hope that the public, and the Board of Agriculture in particular, will afford Dr. Jenner every possible opportunity of examining animals dying of this disease, and of perfecting this among his many other valuable discoveries.

Dr. Darwin says in the *Phytologia*, the rot in sheep is caused by the gourd-worm, or fleuk-worm (*fasciola hepatica*) of Linnæus. This insect is to be found in ditches, rivulets, and the livers of sheep; it is about the size and shape of a child's finger nail, is licked up by sheep in summer from wet pastures, and creeps up the gall ducts from the intestines, and preys upon the livers of sheep; it soon erodes the liver, causing ulcers, and the sympathy of the lungs with the liver occasions a cough, and a hectic fever, from the absorption of the matter; a consumption and death soon follows if left to its course; the proximate and predisposing causes he supposes to be, the bile becoming too dilute from too much watery nourishment, whence it does not possess sufficient bitterness or acrimony to prevent the depredations of these insects: salt and water is the simplest remedy; but he thinks hay moistened in, or sprinkled with salt and water, would be wholesomer for them if they would eat it, or 60 grains of iron filings made into a ball with flour and salt, given every morning for a week, might be efficacious.

It is well understood by the Leicestershire breeders, that sheep take the rot by grazing in water meadow land, after summer floods, all nature being then in a state of animation from warmth; and the insect abounding on the wet
surface,

surface, is then licked in by the sheep with its food; no danger is apprehended from water-meadows from the first frost to the return of warm weather in the spring, the water in winter being too cold for the habitation of these insects; the true management therefore consists in preventing the disease, by grazing sheep in upland during summer, by draining such upland, and freeing it from surface water; and a plentiful use of lime is supposed to make the land, and the herbage it produces, wholesome and kindly for sheep.

The red water is believed to be owing to the extremes of keep, from very good to very bad, but most frequently when changed from bad to good, and it is thought here incurable. Mr. Watkinson has used a preventative for thirty years, and during the whole of that time he has not lost a single sheep by that complaint, though it was very fatal to his flock before the use of the medicine, which is as follows:

Two ounces of myrrh, boiled in 60 table spoonfuls of ale; he gives three table spoonfuls to each lamb about Michaelmas, and never repeats it.

The foot-rot is cured by paring the hoof close, cleaning out the dirt and matter, and dressing the foot with causticks, butter of antimony or aquafortis; the former I believe the best; the foot should afterwards be kept clean by keeping the animal out of the dirt; some wash the unsound foot with lime-water, and others drive the sheep upon quick-lime strewed on the bottom of a penn or fold; the disorder is believed to be infectious, by a sound sheep treading on the putrid matter.

The scab is always cured by topical applications, by tobacco-water, by mercury and grease; by sulphur, soap, and lard; or by vitriolic acid lowered with water; the last is the most efficacious, but it requires care and skill in the application.

The

The cause of the rickets is not well understood, and the cure never attempted by medicine.

There are many remedies for the fly; tar water; spirits of turpentine to dislodge the maggots, and white lead to dry the parts; the best shepherds dissolve one ounce of sublimate in one gallon of spring water, and then add three table spoonfuls of spirits of turpentine; this applied to the fly-blown part will destroy the maggots.

It is thought necessary to change the pasture for the flux, and to give rhubarb and ginger, or dragons' blood and ale.

But the best flocks of Leicestershire are preserved from most of these complaints by care and attention, and a good shepherd would be ashamed of having a fleece broken or disfigured by the fly or maggots; they are so much with their flock, that from habit and acquaintance they can instantly perceive when a sheep is deranged; and the effects of the fly would be prevented before a maggot is formed, by destroying the nits with their fingers, and all or any of the other complaints would be arrested, in the first instance, by drawing out the sheep, and keeping it separate from the healthy flock, in some small close adapted; insomuch that a disordered sheep is not to be seen in a well-managed Leicestershire flock.

It was remarked before, that all the principal ram lambs of the best blood, are saved for rams, by the first-rate breeders; if any of these grow out of form, they are cut for wethers at about a year old; the spirit for ram letting remains undiminished, and it is very probable that 30,000*l.* per annum is now made by it, one-third of which may be within, and two-thirds without the county.

It appears from the opinion of the best physiologists, and medical philosophers, that Bakewell, in his efforts to improve live stock, hit upon the true principle of improving

their forms, by selecting the most perfect males. Dr. Darwin says in *Phytologia*, the male or sire gives stature and external form, and the female manners and habits; the wool is also much affected by the male. If a polled ram be put to horned ewes, the horns will soon be done away in the progeny. The most rapid improvement in live stock is, therefore, to be brought about by care in the choice of males.

Numbers kept on a given space.—In CHAP. VIII. ON GRASS LAND, it is estimated that 80 sheep may be annually produced from 50 acres, half-shear hogs, and half ewes or theaves; and under the article CATTLE it is supposed, that the pasture land reserved for sheep amounts to

128,000 Acres.

To which add half the green crops of the

county	-	-	-	-	-	20,000
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Total sheep land	148,000
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For the sake of round numbers, I will suppose the sheep ground of the county, green crops included, amounts to 150,000 acres, and that 80 are the annual produce of 50 acres, and the whole county thus annually produces 240,000 sheep; and if, as before calculated, 100 ewes rear 120 lambs, this produce will require 200,000 ewes; from this data the sheep stock of the county will be as follows:

	Number.
Breeding ewes put to the ram	200,000
Lambs reared	240,000
Shear-hogs, rams, and theaves	240,000
Total sheep stock	680,000

As

As the first and the last classes only are shorn, this will give the number of fleeces at 440,000, which at four to the tod, gives the produce of wool at 110,000 tod.

Part of the weather stock is sometimes kept to a greater age, but in that case ewes or younger stock must be parted with to make room in the pasture; and it will thus make little difference in the general produce of the new breed. Mr. Ferriman reckons the fat shear-hogs at 25 lb. the quarter, and the ewes at 22; but as the largest proportion of the ewe stock must be theaves, of which the strongest are taken into the breeding flock, instead of ewes drawn off. I believe the average of the ewe stock sold off, ought not to be reckoned at more than 20 lb. the quarter; also though the strong sheep kept in part of the county are of more weight, yet they being stocked thinner on the ground, this circumstance makes little difference in the general result, which (from the foregoing data) may be stated as follows:

Annual produce of sheep in Leicestershire.

	£.
120,000 shear hogs at from 50s. to 70s. each, average 3 <i>l</i> . - - - -	360,000
120,000 ewes drawn off from the breeding flock, and theaves to spare from the young produce, at from 40s. to 50s. each, though some may be higher and some lower, average 4 <i>os</i> . - - - -	270,000
110,000 tod of wool, at 1 <i>s</i> . per lb. - -	154,000
Total annual amount of sheep -	784,000

These calculations are clearly uncertain, and I suppose high enough, and such as will hardly be realized without the

the best management both of stock and pasture; the above produce of sheep from 150,000 acres, of which 130,000 acres is grass land, and 20,000 acres green crops, is 5*l.* 4*s.* 6*d.* per acre, which is not much too high, when it is considered, that labour and expenses of every kind is included, as well as risk, and interest of capital. I suppose that with this stock upon such land, and good management, from 1*l.* to 1*l.* 1*s.* per acre may be made of wool shorn, supposing the land wholly applied to sheep, and from 4*l.* to 4*l.* 4*s.* per acre of the sheep, making in all as above from 5*l.* to 5*l.* 5*s.* per acre; of this one-third will go for rent and tithes, another third for servants and labourers wages, taxes of every kind, wear and tear, and incidental expenses, all of which it is not easy to think of, or point out; and when these are paid, little enough will remain for house-keeping, and provision for a family, and for old age.

From the above data the produce of mutton				
per acre may be thus calculated, 10 acres				
gives 8 shear-hogs, at 25 lb. the quarter				
average	-	-	-	800lb.
And, 8 ewes, or theaves, at 20 lb. the quarter,				
ditto	-	-	-	640
Total				1440

Which is 144 lb. weight of mutton, bred and fattened per acre.

SECT. III.---HORSES.

FROM many curious anecdotes related from one generation to another, from extraordinary facts, preserved in the

the archives of some of the oldest families, and from certain old parochial registers, Leicestershire seems to have been always eminent for a useful and beautiful breed of black horses. By an agreement amongst the occupiers of lands in the parish of Wimeswold, it was made unlawful for any man to bring a mare into their common fields; stallions being thought more grand, and therefore the only beasts that were fit for the Wimeswold farmers to use. The farmer's chief pride was in his team of horses, and it frequently carried him into very blameable lengths; he very often bestowed that expense and attention upon his horses which, by the immutable laws of nature, belonged to his family and children; and many instances might be collected of families being entirely ruined by this false pride, and preposterous folly.

In such a situation, and with such other advantages as Mr. Bakewell possessed, he could not be long in making a selection of strong and fine horses; but where so many very good ones were bred, and amongst so many experienced competitors, he found it difficult to take the lead, and nothing less would satisfy his restless and aspiring genius.

In company with Mr. G. Salisbury he went through Holland and part of Flanders, and there purchased some West Friesland mares, which excelled in those points wherein he thought his own horses defective, from which with great labour, expense, and judgment, he produced some capital horses, and in particular his famous horse Gee, the noblest, and most complete and beautiful creature of his kind that had been seen in Europe. How far his elegant points were adapted for the labour that horses of this sort are principally designed to perform, is a question perhaps undetermined; be this as it may, beyond all controversy he was strong and handsome, and commanded the

the admiration of all who saw him; for a time he was the first subject of conversation, and almost the wonder of the day; he was taken to Tattersall's, and shown there to the nobility and gentry, with great approbation; and Mr. Bakewell had the honour of showing him personally to his Majesty: he is said to have been very quiet and docile, and Bakewell in describing his points, invited his Majesty to touch him, which was, I believe, declined. He was killed by lightning in his pasture; a son of his was afterwards sold to Mr. Inge, of Thorpe, for a large sum. The above mostly from Mr. Ferryman.

Leicestershire is a horse-breeding county, and has, for time immemorial, produced more than are wanted for its own use. Mr. Monk says, great numbers of mares are kept for breeding, all of the large black sort; the produce is sold off when foals or colts, except what are wanted to fill up vacancies in the teams; he calculated that there are upon an average in this county 150 horses in each parish, reckoning all sorts, and every kind kept; and the county containing 200 parishes, gives 30,000 for the number of horses kept in the county: this I believe to be over done, and shall give my own calculation.

A good many blood horses are also bred in this county, but these principally by gentlemen for their amusement. I saw some beautiful blood mares for breeding, the property of William Herriek, Esq. at Beaumanor, but he never introduces any himself to the turf. Mr. Astley, of Odstone, also breeds and keeps a few highly bred horses.

Mr. F. says the young horses are taken to market from weaning time to four years old; those for labour are sold at from 10 to 40 guineas each; young stallions at much higher prices: colts, after weaning, are kept in good upland pasture, or in clover, with an allowance of corn daily
from

from then to the next spring ; the second winter they will do with hay, and a few oats in hard weather.

Working horses are sometimes soiled in the stable part of the summer, upon vetches, clover, or mown grass ; which Mr. F. says are best cut one or two days before they are given ; but they are more generally turned out to grass in the night, with hay and corn given them morning and evening.

In the winter they are kept in the stables, and fed with hay, cut straw, chaff and corn ; the corn is given whole, though it is the general opinion it would be better bruised or broken ; a different opinion is, however, advanced by Dr. Darwin in his *Phytologia* ; he says, “ feeding horses with ground corn does not strengthen them so much as giving it whole ; by their chewing and breaking it themselves, the saliva is better mixed with the masticated food, and in greater quantity. Some few trials have been made to keep horses upon potatoes, and upon carrots, and they have been said to answer extremely well, but the practice is not any where persevered in.

Horses, if taken good care of, will continue to work till they are 16, 18, or 20 years old, and sometimes longer.

The following account of Leicestershire horses is, in part, from Mr. Marshall, who has continued it down to the year 1796. As Mr. Marshall was for two years near the spot, it seems well worthy of preservation ; but less attention has been latterly paid to stallions at Dishley, their principal efforts having been for some years directed to sheep.

Mr. Bakewell bred many other capital stallions, that were shewn in London, and another named K, covered many years for five guineas each mare ; from this he had them down to one guinea ; and in some other hands they were as low as half-a-guinea a mare : the price given by the season,

season, for a good stallion, 40 to 80 or 100 guineas, and by purchase from 50 to 200 guineas; and in a few particular instances a good deal more.

At Ashby, in this county, is an annual show for stallions, on Easter eve and Easter Monday; they are all of the black strong breed, chiefly young horses, rising two, three, and four years old, some to be sold, others to let for the season; thirty or forty are generally shown.

Places of sale.—At the autumnal fairs of Ashby-de-la-Zouch and Loughborough, and more particularly, at the fair of Harborough, October 19th, great numbers of foals are taken for sale with their dams; the foals only generally for sale, there are also a number of colts of maturer age; many yearlings, and of other ages, from this county, are also taken to the autumnal fairs of Burton-upon-Trent, Rugby in Warwickshire, and Ashburne in Derbyshire, as well as to Stafford and Rudgeley, June 6, at which places, they change masters, but are often bought in by Leicestershire graziers, who keep them till they are fit to work, and then sell them again at some of the above fairs to arable farmers, or dealers, in Buckinghamshire, Berkshire, or the more western counties, from whence at five or six years old, many of them find their way to London, to which place they are finally sold for drays, carts, waggons, coaches, the army, or any other purpose they turn out to be fit for; thus Leicestershire is a part of that nursery which supplies horses to the metropolis, and for other purposes which could not possibly be supplied, but from a rich grazing county.

Mr. Monk has stated the number of horses, of all kinds, kept in the county, at 30,000. Mr. Ferryman thinks four or five are kept to every hundred acres; but if breeding mares are kept, from six to nine may be necessary; but he cannot mean acres in the gross of all sorts, but arable

land liable to cultivation ; the quantity of this latter description in the county, besides permanent grass, &c. I have estimated at 240,000 acres ; if to every 100 of this we allow four horses and four mares of working age, it gives 19,200 working farm horses and mares ; suppose half the mares breed, gives 4,800 foals, and half of these sold out of the county, or not reared, leaves 2,400 ; suppose the same number one year older, or not finally sold, gives 4,800 young horses or colts, and 19,200 of working age, as the total stock of strong horses, in all - 24,000

To these add 10 to parish blood-horses or	
hacknies	2,000
Young horses or colts of the latter description,	
and miscellaneous horses of all denominations	2,000
	<hr/>
Total	28,000
	<hr/>

And that these are sufficient to do the work of the county I have no doubt, as well as to produce two or three thousand colts annually more than is sufficient to keep up the county stock of horses.

The present horse system at Dishley is this : three or four very capital black stallions are constantly kept, sometimes more and many more have been, before the principal attention was directed to sheep ; these are occasionally worked, and are always rendered docile enough for that purpose, if wanted ; those kept at home cover at two guineas the mare, and those let out never at less than one guinea. Eight or ten brood mares, of the same stout black breed, are also kept, but no geldings ; these do all the farming work of between four and five hundred acres, with occasional assistance from the stallions, as well as from bullocks and heifers ; of the mares, all that are fit
are

are put to the horse, of which three are reckoned upon the average to rear two foals, allowing one in three for casualties; and this system of brood mares, of the strong black kind, pervades a large proportion of this county, and who shall gainsay or contradict this practice with effect, so long as a capital two-years old colt will often bring from 30 to 40 guineas, and that at the breeder's or at any of the popular fairs. I was informed that at Harborough fair, Oct. 1807, colts of two years old past sold at 35 guineas; the present common average price of prime stock of this kind, may now be thus reckoned; a colt at weaning-time 10 to 15 guineas; ditto, one year older, 20 to 30 guineas; ditto, two years older, 30 to 40 guineas; and if the practice of rearing such colts were discontinued, or prohibited, from whence must the demand for strong black dray or road-horses be supplied, as well as some of a secondary weight for coaching and the army, except from where they now are, Leicestershire and Derbyshire, principally. If this subject be properly considered it will appear, that agricultural horses are here principally a nursery for raising a supply for commercial purposes; for self-defence, for convenience, and for supplying the demands of luxury; and that so far, independent of their comparative utility against oxen, they cannot be dispensed with.

Respecting the number bred, whether it be too many or too few, the price at market will always tell; if the price were low for any length of time, I believe the breed would be neglected, and the only way to substitute oxen for horses, would be to abolish or prevent the demand for the latter; but so long as that continues they will be bred, and whoever breeds them will have part of his stock fit to work; and if that be sufficient to do the work, oxen will not be wanted, or only in part, as at present; the subject therefore naturally resolves itself into this conclusion:

horses

horses are necessary in great numbers, in a rich, commercial, and luxurious country, for other purposes than those of agriculture ; they can only be produced from the land, and therefore must be bred by farmers, to support and maintain that luxury, which I believe, in a moderate degree, tends to encrease the comfort and happiness of civilized society.

The staple food of horses, when kept in the stable, is hay and corn ; but green food is sometimes given, as vetches, green cloves, carrots, and Swedish turnips ; and I cannot but strongly recommend a farther extension of the latter as horse food, when washed and sliced by Hanford's cutting machine, and, mixed with a little corn and chaff, they would make excellent horse food for the months of March, April, and the beginning of May, till vetches were ready, and no produce would go so far per acre in the keep of horses as this crop. If half a hundred weight per day, washed and cut, were given to each horse, with 7lb. of oats and three of beans, with a good supply of chaff or cut straw, such horses would want little or no hay ; and putting the crop at 15 ton per acre, an acre would thus last seven horses a quarter of a year, and vetches might succeed to supply them through the summer.

Mr. Ainsworth says, boiled potatoes is excellent food for horses ; and that working horses should always be fed within doors, their work being their exercise ; in winter they should be fed with old hay, cut carrots, or Swedish turnips, and boiled potatoes ; in summer they should be fed with green food within doors ; they fill their bellies sooner at the rack, and are always ready for use ; they are exempt from the flies, and their dunghill will be of greater value ; for horses' dung in the field in summer evaporates except a little dust.

LEICESTER.]

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Mr.

Mr. Wilkes, who kept a great many working horses, always kept them within doors, and often fed them with mown grass, given green, and returned their dung and wet litter to the land, unfermented; and this he maintained was the most economical way, both of keeping the horse and improving the land.—SEE MANURING.

The consumption by horses, and the quantity of land necessary for their support, as kept at present, may be estimated as follows. 1st. For working horses. Acres.

A bushel of oats and a peck of beans per week,				
will be nearly the produce of two acres each				
horse per annum in corn only	—	—	—	2
Green food given in the stable, in the spring, or				
vetches and clover in the summer, in all for				
six months	—	—	—	1
Hay given in the stable for six months, in winter,				
at a quarter of a hundred per day, two				
ton one quarter, from	—	—	—	1½
				<hr/>
			Each horse	4½

The horse remains creditor for the aftermath of the hay-ground, which may be allowed to make good deficiencies in the hay, or in other food; the above is a very good allowance, and a horse may be thus very well kept from Leicestershire land.

For colts, or young horses, as corn is only generally given to these in winter, or in severe weather, two acres per head for grass and hay, and half an acre for corn will be a good allowance, per head 2½ acres.

For the sake of round numbers, I will suppose the number of working horses of all	Acres.
sorts — 22,000, at 4½ acres per head	99,000
Colts, or young horses, 6,000, at 2½ ditto	15,000
	<hr/>
	114,000
	Of

	Acres.
Of this the corn and bean land, including vetches and other green crops, may be reckoned	50,000
Grass land for hay, clover, and pasture —	64,000
	<hr/> 114,000 <hr/>

As the average produce of oats and beans in this county runs higher than to supply the above allowance, it is very probable that they are supplied from somewhat fewer acres of corn land.

The above allowance of corn, as well as other food, is liberal; but I understand military horses are now allowed 10lb. weight of corn per day, but I believe many farmers' horses have not half that allowance the year round; but in that case they will consume more hay or other food.

The way to economize in the keeping of horses, at least respecting breadth of land they consume, would be to feed them more with green food, as before named: suppose boiled potatoes, carrots, or Swedish turnips, given from the middle of February to the middle of May, with their allowance of corn; vetches, or lucern, from the middle of May to the middle of August; clover after-math mown, or lucern, or after-math grass, from the middle of August to the middle of November; and hay from the middle of November to the middle of February; this would be sufficient change of diet; and, I believe, two acres would thus well supply a horse the whole year, their corn not included.

Respecting increase and decline of value, the horses and mares kept for the use of the county may be reckoned, upon the average, worth, at one year old, 10 guineas; at two years old, £0; and at three years old, 30 guineas; after which they remain stationary three years, and then

decline in value two guineas per annum till their death. I believe, that after allowing for casualties, and home supply, from the number bred as above, that 3000 of the most valuable young horses may be annually sold from the county, from weanling colts at 10 guineas, to prime young horses at 40, average 25 guineas; amount per annum of horses bred and reared in, and sold from the county, 75,000 guineas. Many of the weanling colts, sold at the fairs by the smaller farmers, are bought in by graziers and opulent farmers within the county, and kept till they are of increased value.

But the above is not exactly the present general and practical way of keeping horses, but rather an improved way, pointed out and partially in practice; they are more commonly turned out to grass in summer, perhaps for six months, when their allowance of corn is considerably curtailed, and then taken into the stable and fed with hay and corn the other six months, as before. The inconvenience of turning working horses out to grass in summer is, they will often break out of pasture, and in the morning, when wanted, are found with difficulty and loss of time, after perhaps trespassing in the owner's, or his neighbour's, mow ground, or corn crops.

At Lord Moira's are two or three Arabian stallions, of great beauty and value; one was shown me which cost 200*l.* carriage over. I was going to touch him, but was warned not to do it, as he is a little inclined to be vicious.

The shoeing and harness of working farm horses may be reckoned one guinea per annum, and their decline in value after their prime two guineas per annum more; but they must decline and die in the hands of somebody, and therefore, in a public view, it is not material where that happens.

The

The most common distempers of working horses here, according to Mr. Ferriman, are,

1st. The staggers, which is a very violent complaint, and generally proves fatal: James's powders and bleeding have been used, and sometimes with success.

2d. The colic, for which Glauber's salts are given ;
or ale, coarse sugar, and ginger, boiled together.

SECT. IV.—ASSES.

ASSES are used in many parts of the county for carrying burdens, and have been lately introduced as farmer's stock : at Lord Moira's two or three are constantly kept for carrying turnips, cabbages, or other green food, for the supply of live stock ; they are worked by boys, or superannuated old men, or by women, and are, perhaps, the best stock that can be employed for clearing green crops from strong land in wet weather ; their step being light, and not poaching the land ; they will easily carry two hundred weight ; and an ass has been known to carry 40 bricks, of 8lb. each, as its common burden, and will thus do a great deal of work by perseverance, with the assistance of those who are too weak to manage horses. Some have the paniers constructed to open at the bottom, to let out a load of turnips at once, spreading them afterwards ; and this stock is approved by all who use them.

At Lord Moira's are also two very stout stallion asses, of 14 or 15 hands high, for getting stock; they are, I believe, of the Spanish kind; one of them was offered to sale by auction when I was there (one being thought enough to keep); the price offered for him was 38 guineas, but he, being valued at 50 guineas, was bought in, and

they both remained in hand; they cover at one guinea each mare, and half a-crown the groom. Asses are well known to be content, as food, with thistles, briars, and hedge browsings, or a little straw.

SECT. V.—MULES.

THESE are a species of stock which have long been in use in this county. When Ashby Wolds was in its waste state, I have seen a good many mules grazing thereon; and at Lord Moira's, when I was there, were half a dozen mules, got by his own stallion asses; they are used either for draught or the saddle; two were sent with a caravan to Scotland with domestic articles; they are capable of travelling any length, being possessed of more hardiness, patience, and perseverance, than horses, and can subsist on much coarser food; their duration and longevity is surprising: they will begin to work at three years old; are in their prime at thirty, and are said to live to sixty or seventy, and to be then useful; they have been used in the plough, as well as other draught; and they make very hardy and useful hacknies.

Mr. Dawson, who is Lord Moira's steward, has a young mule which he prefers for his own riding. Upon my observing to him the character they bear for their restiveness, perverseness, and being unmanageable; he assured me that it was not in their nature, and where such dispositions were shewn, it was owing to ill treatment, and the perverseness of their manners; that they have a strong sense of ill treatment and injuries received, and act accordingly; but, that managed with humanity and gentle treatment,

treatment, no animal is more docile or more easily governed ; their good properties are extolled by those who use them, either for the saddle or for draught ; they are of quick step, and agile in their motions, but they cannot possess the strength of heavy horses, for weighty loads and heavy roads, their own want of weight forbids it ; yet, as they are certainly more pliable in their make, and more hardy in constitution, as well as more muscular in proportion to their size than horses, their strength is very probably in proportion to bulk also greater.

Dr. Darwin says, the mule produced from a horse and a she ass, resembles the horse externally in his ears, mane, and tail, but with the nature and manners of an ass.

But the hinnus, or mule, from a male ass and a mare, resembles the father externally in stature, ash colour, and black cross on the shoulder ; but with the nature and manners of a horse.

SECT. VI.—HOGS.

THE improvement of hogs in Leicestershire has been attended to with the same care and success, as that of other live stock. At Dishley, some years back, a fine-boned sort, of small dimensions, had been carried to great perfection : I have seen there a hog of small size, when lean, fatted to 20 score weight, or more ; his length, height, and thickness, being nearly equal ; belly touching the ground, the legs being enveloped in fat, and the eyes scarcely to be seen for fat, the whole appearing a solid mass of flesh. I have measured a small hog, killed there, 13 inches and a half through the chine.

Mr. Atley, at Odstone, has a very capital breed of

swine; they are rather of more bone and larger make than those mentioned above, and will either ripen into good pork or bacon, of moderate size, or may be fatted to a great weight; they are always in good condition with any kind of food. On my mentioning the very small bones of the Dishley swine, Mr. Astley observed, they were adapted for gentlemen's pigs; but he thought his breed better for farmers, and for general use. I think the swine at Dishley are now of a somewhat larger make, though very fine boned and delicate. Mr. Astley's store pigs have often a few raw potatoes given; the fat ones are supplied with the flour of barley, or pulse, moistened with water, or with refuse from the dairy, generally made warm.

When I was there, I took measures of three swine, of which the following are particulars:

No. 1. A boar, used for stock.

		Ft.	In.
Length from nose to rump	—	5	4
Girt round the shoulders	—	5	4
Thickness at the shoulder	—	1	8

This boar served sows at one guinea each, of which many were sent, and some from considerable distances; his young pigs were sold at weaning age, for breeding, at five guineas each.

No. 2. A fat pig, alive, weight by estimate of meat, 25 score.

		Ft.	In.
Length from nose to rump	—	4	6
Girt round the belly	—	6	9

This was of the sow kind, cut young, termed provincially, in the midland counties, a gawt; of which word I do not know the derivation.

No. 3. An hog, by estimate of meat 30 score, but alive, and with the above, not intended to be soon killed, but kept on as proof pigs, to show what the breed will arrive at:

Length

		Ft.	In.
Length from nose to rump	—	5	0
Girt round the belly	—	6	9

The following remarks on Leicestershire swine are by the Rev. Robert Ferriman, from whom I have also other valuable remarks on the live stock of this county, with which he was perfectly well acquainted.

Very little pains were taken in breeding of swine in Leicestershire, till within these few last years; but Mr. Honeybourne, of Dishley; Mr. Buckley, of Normanton; and Mr. Astley, of Odstone, have now a breed, that are capable of being made wonderfully fat; whilst lean, their frames are gaunt and narrow; but when fat, their backs are broad and straight, bellies light, legs, head, ears, and tail, very small, generally blind with fatness, and their bodies almost without bristles; Mr. Honeybourne's seem to have a cross of the wild boar, both in shape and colour; Mr. Astley's are said to be bred between the Chinese and Berkshire.

Young sows are generally put early to the boar, and will produce two litters in one year; swine are generally fed with whey and other wash, and offal of the house, dairy, and farm, through the whole of the year; it is believed to be best if kept till it be sour, and cisterns are constructed to receive it; and it is also reckoned best to be given warm; but that is seldom practised, except by good housewives; they are generally fattened upon barley-meal; and pease or beans are given for a few days before they are killed.

The best sties are so constructed, that the wet all drains away; the trough is sheltered from the wet, and the sleeping part is dry, close, and warm; and well supplied with clean dry straw.

Mr. Ferriman details the following method of preserving brewers' grains, as being practised by a gentleman of great observation,

observation, who informed him, that he has for some time been in the practice of keeping brewers' grains in a large cask, with fine holes at the bottom to drain of the moisture; the grains are put into the cask in layers of about one foot thick; salt is put between each layer; they are pressed hard together to force out the moisture, and kept covered to guard them from dust; they are cut out with a knife in small parcels, as wanted, and are thus good food for hogs, or other stock; he has given them to his horses, and has found them to be healthy and nutritious.

At Lord Moira's is a Berkshire boar, who gets very good stock; also a German boar, thick and well made; the bacon from his breed is preferred for extraordinary sweetness and good flavour.

Hogs are but little permitted to roam about and feed in pastures in Leicestershire, it being deemed slovenly, and fouling to the pastures; they are therefore, in preference, fed in the yard with raw potatoes, and other green food, as cabbages, Swedish turnips, and the refuse of the garden, as well as the food named before, and sometimes light corn is given; boiled turnips have also been given to fattening hogs, and with good effect, especially with the addition of a little meal.

Mr. Marshall reckons the number of hogs kept to be about eight to 20 cows; but as some persons keep hogs who have no cows, I suppose the number may be reckoned equal to half the number of cows, and probably the number annually fatted may be equal to half the number of cattle fatted, which, by an estimate, article CATTLE, would be 15,000; but I suppose but little pork or bacon is sent out of the county.

SECT. VII.—RABBITS.

RABBITS are not much attended to in this county as articles of sale or profit; but little of the soil is sandy, and it is much better employed in the production of mutton.

Upon Rotheley Plain, however, I saw a good number of rabbits, but had no opportunity of being informed of any particular system of management concerning them.

Upon Lord Moira's premises a few rabbits are encouraged for the sake of variety, and for the table: the farm bailiff complains that they are apt to commit depredations upon the Swedish turnips.

Mr. Ainsworth says, rabbits are a very profitable animal, as they breed almost every month; but there are very few warrens, and as they destroy a deal of land, they are not attended to; but if land, which would do for nothing else, (such as the forest hills) and such only they are adapted for, they would turn to a great account, and increase provisions; some tame ones are kept, and they deserve more encouragement.

SECT. VIII.—POULTRY.

DUCKS, geese, and the other varieties, are kept about gentlemen's and farm houses and cottages in the country, but are articles of secondary consideration to farmers, who, after the supply of the table, generally resign the profits of them to the females of the family, for their care and trouble in attending to and feeding them. Mr. Ainsworth says they are deserving of much attention as articles of profit, and relates as follows: I knew a poor woman who
very

very lately reared some chickens and ducks, took them to market and sold them well, and bought a pig with the money ; which success filled my mind with agreeable sensations ; they are certainly an object of deserving attention, and no doubt here, as well as elsewhere, receive all the attention they deserve.

SECT. IX.—PIGEONS.

PIGEONS are not very numerous in the county. Mr. Ainsworth says, that, except tame ones, they are nearly destroyed since the enclosures have taken place ; although they (like rabbits) are very prolific, and breed almost every month ; they too are a great delicacy, and are readily sold at market ; their dung is very valuable, and they deserve more attention.

It may, however, be observed, that as pigeons live principally on useful grain, or pulse, which food is not lost, but perhaps given to more solid and useful stock ; and as they sometimes do a great deal of mischief in crops ; perhaps their numbers being reduced, is not to be considered as a public evil.

SECT. X.—BEES.

Mr. Ainsworth says, bees are attended to as articles of profit, but not so much as they deserve ; since sugars have been so dear, it is amazing that every farmer has not an apiary, as they turn to so great account ; that it is the interest of the husbandman to keep bees is plain, because they will bring him in profit, and naturally fall in the way
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of his profession. I am informed they are so much attended to in Flanders, that a certain farmer near Louvain, sold a thousand stocks annually at about five shillings each.

There is, however, very great reason to doubt their answering, to any great extent, in our uncertain and unsettled climate. And Dr. Darwin says, a great number of bees must be very injurious to flowers, and consequently to the production of fruits, by plundering the nectaries of honey, and thus depriving the anthers and stigma of their adapted nourishment; they also injure the seminal products of vegetables, by plundering the anther dust for bee-bread, and also the wax which cover the anthers against rain; nevertheless, as mankind convert to their own use the products of bees, and as the products of vegetables are in sufficient abundance, bees are encouraged.

The bees of one society frequently attack those of another, and plunder and destroy them, in this respect resembling mankind; this he has prevented, by moving the attacked hive to a distant part of the garden, when the assailants made no pursuit, and the war ceased.

CHAP. XV.

RURAL ECONOMY.

SECT. I.—LABOUR.

THE price of labour in 1794, as stated by Mr. Monk, was, for a labourer, 1*s.* to 1*s.* 6*d.* per day and beer, with their board in harvest, and the carriage of a load of coals, worth 14*s.* to 1*l.* 1*s.* more; but a great deal of labour is done by the piece, or, as they call it, by the great. A good labourer expects to earn in harvest a guinea per week, and in winter 15*s.* Reaping is from 7*s.* to 10*s.* per acre; mowing grass or barley, 2*s.* to 2*s.* 6*d.*; threshing wheat 4*d.* to 6*d.* per bushel, and beer. Women at farm-work earn 8*d.* per day; the hours of work are from six to six in common, and from light to dark in winter; the same in harvest, according to the emergency.

Wages for a servant man 6*l.* to 12*l.* per annum; and a lad from 3*l.* to 5*l.*; dairy-maids from 3*l.* to 5*l.* and some few more.

Servants are mostly hired from Michaelmas to Michaelmas, at public statutes, of which many are held in the county. Various opinions are held, whether these meetings are advantageous or not to the interests of agriculture. Mr. Monk decides against them, on account of the ease with which servants get places, without reference to character:

racter : I happened to be present at two of them by chance, the one at Melton, the other at some village in the vale of Belvoir; in the evening they turn to a kind of holiday romp, and have, I think, a tendency to dissipation.

Mr. Marshall gives an account of Polesworth statute, Sept. 27th, to which he says, servants came out of Leicestershire 25 or 30 miles on foot; (Polesworth is in Warwickshire, but near the borders of Leicestershire,) the number of servants collected together in the statute-yard has been estimated at from two to three thousand; farm-servants for several miles round consider themselves at liberty on that day.

But he says public hirings are condemned by the most respectable judges, as tending to vitiate the minds of servants, to render them fickle and unsettled in their places, and to expose the good ones to be corrupted by the bad; and it certainly causes a cessation of country business for some days, and an awkwardness in it for some time afterwards.

From 1794 to 1807, the price of labour in agriculture is somewhat advanced. Lord Moira's farm labourers have now two shillings per day; and piece-work is also somewhat advanced, as well as the wages of hired servants; and this is, perhaps, but just, in proportion to the price of provisions, particularly butcher's meat, as well as wearing apparel, in which many articles are advanced, particularly shoes.

As Mr. Monk observes, the price of provisions is a good deal regulated by distant markets, as Smithfield, Birmingham, &c. The following were the common prices in 1794, and in 1807 and 1808.

Price

Price of Provisions 1794 from Mr. Monk.			Price of Provisions at Ashby 1807. Jan. 1808.			
	D.		D.	D.	S.	D.
Prime Beef	4 per lb.	-	Beef	5 to 6	0	6
Mutton	4½ to 4½		Mutton	6—6½	0	6½
Veal	4—4½	-	Veal	6—7	0	7
Lamb	4—0½	-	Lamb	6½—0	0	0
Pork	4½—0	-	Pork	6—6½	0	7
Bacon	8—0	-	Bacon	9—10	0	0
Cheese	5—0	-	Cheese	6—7	0	7
Butter	10—14	-	Gutter	14—0	1	2

Grain per Quarter, at 34 Quarts to the Bushel.

	S.		S.	S.	S.	D.
Wheat	72	-	Wheat	70 to 78	77	4
			Rye	46		
Barley	42	-	Barley average	42	36	0
Oats	31	-	Oats ditto	32	32	0
But grain two years before had been much cheaper, about two- thirds of the above price.			Beans ditto	52	64	0
			Blue pease	68		
			hog pease	52		

In 1807, the best wheaten bread was ordered to be sold by the magistrates at 2½d. per lb. and household at 2d. per lb. nearly.—See ASSIZE OF BREAD, ARTICLE WHEAT, CHAP. VII.

Fuel.—The sorts of fuel burnt here are coal and wood; the former in plenty from the mines of Derbyshire, and part raised within the county: the price at Lord Moira's works on Ashby Wolds, 6d. per hundred, or 10s. per ton. Derbyshire coal at Leicester, 15s. per ton; and farther east in the county, the price higher still: in this latter district, about Hallaton, are some instances of using cow-dung for fuel. Coal at Ashby, Jan. 1808, 8d. per hundred weight, but much higher in the eastern parts of the county.

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The wages of a labourer in 1794, was, according to Mr. Monk, 1s. 6d. per day, and beer, which was equivalent to 1s. 8d.; it is now 2s. without beer, and may be reckoned advanced within the last 13 years, one-fifth, or 20 per cent. Lord Moira's labourers have 14s. per week, and beer in the summer quarter, but not at other times; for a comparison of the earnings of a labourer, against necessary expences.—See CHAP. XVI. SECT. X. STATE OF THE POOR.

Prices of various kinds of labour in this district, at two periods of time.

<i>From Mr. Marshall.</i>		<i>Prices in 1786.</i>		<i>Prices in 1807.</i>	
<i>Servants.</i>		L.	S.	L.	S.
A waggoner	- - -	3	8 to 10	12	0 to 14
Maid	- - -	3	3	4	4
Youth	- - -	4	4	4	4
Lad	- - -	2	2	3	3
<i>Day Wages.</i>		<i>L. S.</i>		<i>L. S.</i>	
Labourer in winter	- -	1	2	2	0
Do. Hay time	- -	1	6	} 2 0 to 2 6 and beer	
Do. Harvest	- -	2	0		
Women in common	- -	0	6	0	8
Do. Hay time	- -	0	9	0	10
<i>Piece Work.</i>		<i>L. S.</i>		<i>L. S.</i>	
Threshing wheat and binding the straw	- -	0	4 to 5 pr. bus.	0	7
Do. Barley per quarter	- -	1	4	2	6 to 2 9
Do. Oats ditto	- -	0	8 to 0 10	1	6
Thresher extra, for foddering in the yard, Sunday included	- -	1	0 per week		
Reaping wheat by the thrave	- -	0	4 to 6 beer	0	6
Mowing, sheaving and raking oats	- -	5	0 per a. .		
Spreading dung from small heaps	- -	0	1 per cent. h. c.		
Threshing beans per bushel	- -			0	4
<i>Iron Work.</i>		<i>L. S.</i>		<i>L. S.</i>	
Common iron work per lb.	- -	0	4	0	5 to 6
Horse-shoe	- -	0	5	0	6
Remove	- -	0	1½	0	2

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But screw-iron work, and other requiring particular attention, is from 6*d.* to 1*s.* per-lb.; the advance in iron-work in 20 years is about one-fifth, or 20 per cent., chiefly in the labour: the advance of all kind of farming-labour may be reckoned in the space of time about one-third, or full 30 per cent.; but the advance in provisions is more, being nearly as two to three in butcher's meat, and in grain also, by going back full 20 years.

In January, 1808, Mr. Ingle, of Ashby, gave me the following additional prices of labour and implements, and also assisted me in correcting some of the former ones.

	L.	S.	D.
Hoeing turnips per acre effectually, first time	0	7	6
Second time	0	2	0
A good ditch, per rod of eight yards -	0	0	7
Laying a hedge ditto - - -	0	0	6
Digging per rod of 64 square yards -	0	1	0
A single furrow plough, complete -	3	3	0
A double, or two-furrow ditto -	6	6	0
A pair of harrows, ditto - -	2	15	0
A schuffler of the best sort - -	9	10	0
Narrow-wheel waggon, complete -	40	0	0
Ditto, cart - - - -	16	0	0
Six-inch wheel waggon, complete -	45	0	0
Ditto, cart - - - -	19	0	0

CHAP. XVI.

POLITICAL ECONOMY.

IN SOME DEGREE DEPENDANT UPON LEGISLATIVE AUTHORITY

SECT. I.—ROADS.

THE Roman roads of this county being a matter of interest with some persons, I shall just abstract a short account of them from Nichol's History of Leicestershire; and.

1. The Watling-street road enters Leicestershire at Dove-bridge, from the Avon at Dove-bridge to the Anker at or near Mauceter, and not far from Atherstone, in a north-west direction; it is the south-west boundary of the county for near 20 miles.

2. The foss from Lincolnshire, enters this county at or near the Roman station Vernometum, thence to Seggs'-hill over Thrussington Wolds, crosses the Wreke near Syston, thence through Thurmaston to Leicester, passes near king Richard's bridge, then turns to the left over the second branch of the Soar, and over the meadows to the Narborough turnpike road, continues with it to the four mile stone, then leaves it, and the town and church of Narborough on the left, and continues to High-cross.

3. The Via Devana, from Colchester to Chester, enters
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this county near Cottingham, and crossing the Welland, passes Medbourne, near Slauston Mill, and enters the enclosure, and is the common bridle way, passing Gartrebush, by Norton hedges, between the two Strettons, close to Stoughton Grange; and over the fields to the south gate of Leicester, it joins the Foss, but passes to the right of it to Groby, where Lord Stamford's house stand upon it; thence leaving Markfield windmill, a quarter of a mile south-west, passes Ashby to Burton: these are the Roman roads of this county.

The public turnpike roads of this county are generally in good repair; and many of them being great thoroughfares, are much frequented by travellers, mail and stage coaches, and heavy carriages; but having been once made good, are easily kept in repair at a moderate expense, and to which the tolls collected at the different toll gates are fully equal, though I never observed that turnpike expenses run high in Leicestershire. The county is generally sound, and abounds in gravel, but the principal staple material for laying foundation for, and repairing roads, is the stone of Charnwood Forest, raised upon the hills or swells, from whence it is a down hill conveyance to most parts of the county: this stone is carried for this purpose many miles, in all directions, to most parts of the county. It is of the granite nature, and wears well, and forms a smooth road, after having been broken with a hammer into small pieces, and is readily to be had in inexhaustible quantities.

Farm-ways.—Many of the private farm-ways are very indifferent and miry; especially in the strong clay counties, in the winter season; and this is particularly the case in the north-east of the county, and towards the vale of Belvoir, where the private exertions of individuals are insufficient to keep their private roads good in wet seasons; in the dry time of summer they consolidate hard as a rock; but

but materials being scarce or distant, they submit to the inconvenience, sooner than be at the trouble or expense to fetch them, and repair roads.

The roads in the north-west of the county, in the neighbourhoods of Loughborough and Ashby, are many of them laid out upon the concave system. Mr. Wilkes having been a great advocate for that form, and having generally been an acting and active commissioner, the roads upon the new enclosure of Ashby Wolds are upon that system. The following is a section of their first formation :



A to B, the soil taken out four yards wide and nine inches deep, a cubic yard in a yard forward, and to be filled with hard materials; the soil taken out will raise the ground at c c, one foot, to nothing at A B, being three yards wide each side, and four in the middle, total 10 yards wide: greater roads will require more width, one row of post and rail is set along each side, near c c, and mounds raised from the ditches d d; a margin half yard wide, being left between the ditches and mounds for planting the quick; the expense of forming this road will be about 2s. the perch of 8 yards; the expense of filling up the middle with gravel must depend upon local circumstances, or distance the gravel is to be conveyed; it will take two cart load in a yard forward; drains from the road to the outer ditches will also be wanted in places, the expense of the mounds and ditches as well as post and

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rail properly belong to the fencing of the enclosure. I particularly questioned Mr. Wilkes, whether he thought there was any particular economy, or saving in forming concave roads; but he supposed not, but gave them the preference upon other principles.

Mr. Monk makes the following remarks :

The turnpike roads in general are tolerably good; and would be much better, if it were not for the very heavy narrow-wheeled waggons which are employed in the carriage of lime and coals. These waggons carry five tons weight each waggon included, consequently it is impossible that the roads can be good where such weights are carried upon narrow wheels. It is to be hoped, when the different canals are finished, these waggons will be laid by; and then, and not till then, good roads may be expected in this county.

I met with a variety of opinions respecting the proper form for roads. Some were for concave, others for convex, and others were for having them quite flat.

Mr. Bakewell and Mr. Wilkes are advocates for the concave. This is nearly the reverse of the common practice of making roads, by making the middle *the lowest*, though flat about one-third of the width, with a small slope from the sides to the middle, where the best materials are placed, and an equal but gradual descent, sufficient to carry off the water from the middle. The road by Dishley, and that through Measham, are both upon this principle, and are certainly in much better order than the roads round about them. The road likewise through Bredon was made under the direction of Mr. Wilkes; and Mr. Clarkson informed me, the road is better now than he ever remembered it before, and kept in order at much less expense.

Some of the roads made convex are carried up so very high in the middle, that it is dangerous to pass by the sides
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in a carriage, for fear of turning over. When the roads are made in this form, abutments are cast up to hold firm the materials.

Others say, that all roads should be perfectly flat, with a proper fall to carry off the water, which may be always gained at a small expense: they argue, that upon these roads every part bears its equal proportion of weight, by which means they wear more evenly, and are kept in order at a much less expense; but that the other roads bear the greatest proportion of weight on the lowest parts, which makes them more liable to be put out of order, and of course they are attended with more expense. I do not pretend to be a sufficient judge; but I should think, the more even the pressure, the better it must be for the roads, and I believe no one will deny that it must be much more easy for carriages in point of draught. A gentleman of this county (very equal to the task) has promised to turn his thoughts upon the subject of making roads at some future period.

Cross Roads.—There are many individuals, who have been at a great expense in repairing the cross roads through their estates; but in many parts of the county they are infamously bad. Indeed, great part of them are not to be called roads, for they are nothing more than passing through the different closes (fields) upon the turf, and in many of them not the least track of a wheel is to be seen for miles together. In riding a few miles, you have an intolerable number of gates to open; and in most of the cross roads it is impossible to pass with a carriage.

I viewed with regret a great number of their pastures, most shamefully cut to pieces with waggons, &c. through which those (what are called) roads led; for, when one rut gets rather deep, the carters immediately take a fresh path,

and so on till the field is injured to a very great degree. There is a field near Leicester, and through it a road, or rather path, leading to a village, which is so shamefully cut up that it is of no use whatever as a pasture; and, what is still more extraordinary, this field runs parallel with the high road to a great length, and the passengers cannot possibly save twenty yards by going through it. This is by no means an uncommon thing. It is impossible to estimate the hundreds of acres spoiled by this shameful practice. Why not make proper roads? I am certain it would be attended with much less expense to the landholder, and would be much more convenient both to the traveller and the farmer. The former would have the satisfaction of a good road, and the latter the pleasure of seeing his cattle graze in sound pastures, undisturbed by passengers.

I by no means wish to give offence to any person: but I think it a duty incumbent upon me to state facts.

Mr. Wilkes in support of the concave road, observed to me, that the gravel lies thickest in the middle where the wear is, and that it accumulates instead of dispersing, as in the convex road; 2, the ditches are within the enclosures, by which means the road is much safer; 3, where there is any particular fall or declivity in the road, the rain from sudden showers will wash and repair the road; however, he admitted, that in flats and local situations drains into the ditches would be necessary.

It is very certain that good roads have been formed upon this principle, and are said to be kept in repair cheaper than others, but notwithstanding this, the greater part of the new formed or modern improved roads of this county, and of the kingdom were originally formed upon convex principle, though many of them are now worn down flat; the goodness of a road depends in a great measure upon a
sufficient

sufficient quantity of hard materials, and upon clearing itself of water; with these essentials, a road may be good in either form, or even being perfectly flat.

Application of water.—This as a means of mending roads is rather theoretical than practical; where the road lies with a declivity, a sudden heavy shower may wash and clean it, but a perennial stream can seldom be applied to this purpose. I saw little or nothing of the kind in Leicestershire, in the summer and autumn seasons when I was generally there; and in winter frosts, it would be a great nuisance, by filling the road with ice; it may happen in local situations, where the road has a proper declivity, that it may be thus improved; but there should always be the means of taking the water off the road, as well as putting it on at pleasure.



SECT. II.—IRON RAIL-WAYS,

HAVE been formed in this county with great spirit, as appendages to the Ashby Canal: these rail-ways extend about 12 miles in length, from the Ashby Canal, to and by near the town of Ashby, thence to the Lount colliery, and Coleorton to Ticknall, and the Cloud-hill lime works. On these rail-ways there are embankments and deep cutting, to preserve the level, or a regular descent and ascent; also a tunnel of a quarter of a mile in length, with arched bridges for roads over the deep cutting leading to the tunnel in the canal style; these rail-way appendages to the Ashby Canal have cost thirty thousand pounds; it was the original design for these to have been continuations of the canal; but the money being expended, and the expense of lockage

lockage on these lines necessary, rail-ways were substituted, and they are, I believe, the best mode of artificial inland conveyance, for heavy articles next to canals; but the sum expended upon them seems to be enormous, in proportion to the length, and can only be accounted for by the tunnel, deep cutting, and embankments; indeed the whole expenditure upon the Ashby Canal and its dependences seems to have been a profusion of money. The late Joseph Wilkes, Esq. who was treasurer, from motives of liberality, patriotism, and public spirit, as a friend to commerce wished to see the barges of the Trent float over the hills of Leicestershire and Derbyshire, and taking an active part in the business had the canal constructed upon that scale; in consequence, by the extra expense of deep and wide cutting, wider and higher arches for bridges, extra backing up the avenues to such bridges, a tunnel upon a large scale, and the complete and spirited manner in which the works were executed, the money was expended before any of the lockage was constructed, and the communication with the Trent remains undone; that to the high ground is by means of the rail-ways above named, and the canal, is navigated by canal boats only, carrying from 20 to 24 tons instead of Trent barges of 60 tons, having no communication except with the Coventry Canal, which is constructed for such boats only.

SECT. III.—CANALS.

The Ashby Canal is cut and navigable from Ashby Wolds to the Coventry Canal, near 30 miles in length, cut on a level without lockage; it was intended to have been
continued

continued to the navigable part of the Trent below Burton, and with that view was constructed for barges of 60 tons burden; but the money to the amount of £180,000, having been expended, the line to the Trent, on which is a tunnel, and considerable lockage, has been abandoned, and rail-ways substituted to the high ground.—(SEE THE LAST ARTICLE). I understand that this canal, began more than 20 years ago, and which has been many years in use, has yet made no dividend. The Earl of Moira, with that public spirit, displayed upon all occasions, took between 80 and 90 shares, each share originally £100, and has also opened and established on its banks a coal mine, and a very considerable iron work on Ashby Wolds, at an expense exceeding £30,000, the former likely to answer, the latter not at present, there being a great competition in the trade of iron.

2. Leicester navigation, on or near the line of the river Soar, sometimes along the channel of that river, in other places carried out by lockage into a new channel, the line is from Leicester down the Soar Valley to the Trent, with a collateral branch to Loughborough, and this latter continued over part of Charnwood Forest, by canal or rail-way, to Cole-orton colliery, and the Cloud hill lime work; this continuation, from some cause, at present 1807, of no use; the canal let dry and rail-ways not used, coals being to be had cheaper at the Leicester and Loughborough markets, from Derbyshire: I am informed, however, that the Leicester navigation altogether is a good concern; the trade of Leicester and Loughborough keeps it up, and it is said to pay 25 per cent.; it is constructed on a scale for the barges that navigate the Trent.

3. The Melton Canal, from the Leicester Soar navigation along the valley of the Wreke, to Melton Mowbray,
and

and continued to Oakham, and capable of being continued to Stamford, to the navigable part of the Welland.

4. Grantham Canal, from the Trent along the vale of Belvoir to Grantham, with a large reservoir to collect winter water; has cost £100,000, capable of being continued to the sea, at or near Boston; begins to pay five per cent. This canal is a great accommodation to the vale of Belvoir, where the roads in winter were dreadful, but now lime and coal can be conveyed there with ease at pleasure, as well as other heavy articles to and from Grantham: this is likely to become a good concern as the country improves, and which it will be a means of facilitating.

5. Union Canal, from the navigable Soar at Leicester, by way of Harborough to the Nen at Northampton, and intended to communicate with the Grand Junction Canal; but has been arrested in its progress by untoward circumstances, though some little progress is now making toward, Harborough, and a good many workmen employed on it, August 1807, in constructing a bridge over the turnpike road, and extending the canal.

Half a million or more has been expended on these speculations, without in general the expected profits: the Ashby Canal has yet made no dividend, though I understand it to be in the receipt of some thousand pounds a year in tonnage. These great public works are a convincing proof, and wonderful instance of the spirit of enterprise existing in the people of this country; a few projects of this kind having succeeded well, and turned out very profitable, roused forth a rage for canals, which has been carried to a greater length and extent than the nature of the case required. I should very much doubt the Ashby Canal becoming a fair concern, or paying reasonable interest upon the expenditure, unless it could be continued

to

to the Trent, and thus be made a thoroughfare ; in that case Lord Moira's iron would find a readier way to market.

To supply the Ashby Canal with water, a reservoir has been formed upon Ashby Wolds, containing when full 26 acres of water ; this is quickly filled by the rain and melted snows of winter, and dealt out gradually to supply the canal in summer : when I saw it in October 1807, it was reduced to a few acres only.

SECT. IV.—FAIRS OF LEICESTERSHIRE.

THE towns in alphabetical order : Ashby-de-la-Zouch, Easter Monday, a show for stallions, about 30 generally appear ; Tuesday and Whitsun Tuesday for horses, cows, sheep, &c. ; August 24, and November 9, for horses and cows.

Belton, Monday after Trinity week for horses considerable, also for cows and sheep.

Billesden, April 27, July 25, for pewter, brass and toys.

Hallaton, Holy Thursday, May 23, June 13, for horses, horned cattle, pewter, brass, and cloths.

Hinckley, August 26, for horses, cows, sheep, and cheese ; a large fair.

Kegworth, Easter Monday, October 10, holiday fair, and for toys, &c.

Leicester, May 12, July 5, for horses, cows and sheep ; October 10, for ditto and cheese considerable : this fair lasts several days ; December 8, for horses, cows, &c.

Loughborough, March 28, for horses, cows, &c. April 25, for ditto and sheep ; Holy Thursday, August 12, for horses and cows ; November 13, for ditto and foals.

Lutterworth

Lutterworth, April, 2, for horses, cows and sheep ; September 16, for ditto and cheese.

Market Bosworth, May 8, for horses, cows and sheep ; July 10, for horses and cows.

Market Harborough, April 29, for horses, cows, sheep and hogs ; October 19, for ten days, for ditto and foals ; cheese also is a capital article all the ten days ; also for pewter, brass, hats and cloaths, and leather the last day.

Melton Mowbray, first Monday after January 17th, a show of horses ; Tuesday for horses and horned cattle ; Whitsun Tuesday for horses, horned cattle, and sheep ; August 21, for ditto and swine.

Mount Sorrel, July 10, holiday fair, toys, &c.

Waltham-on-the-Wolds, September 19, for horses, cattle, swine, and goods of all sorts ; also for Mr. Frisby's rams.

SECT. V.—LEICESTERSHIRE MARKETS; THE TOWNS
ACCORDING TO PRECEDENCE.

1. Leicester—Saturday.
2. Loughborough—Thursday.
3. Hinckley—Monday.
4. Melton Mowbray—Tuesday.
5. Market Harborough—Tuesday.
6. Lutterworth—Thursday.
7. Ashby-de-la-Zouch—Saturday.
8. Market Bosworth—Wednesday, small.
9. Billesden—Friday.
10. Hallaton—Thursday.
11. Mount Sorrel—Monday.
12. Waltham—Thursday.

} small.

SECT. VI.—WEIGHTS AND MEASURES.

THE land measure of this county, and of the whole kingdom, is, regulated by what is termed statute measure, which is I suppose founded upon some real statute, by which five and a half yards in length and breadth, making thirty and a quarter square yards, make one perch; forty such perches or 1210 square yards, make one rood; and four such roods, or 4840 square yards, make one acre.

But for running measure, as hedges, ditches, &c. and for digging, there is a customary perch, pole or rod, which in this, as well as the other midland counties, contains eight yards in length, 220 such being a mile; or when squared as for digging, contains 64 square yards, 75 of these, and 40 square yards over being an acre.

Corn.—The corn gallon is founded, I believe, on a statute, by which a cylinder of 18 and a half inches wide, and eight inches deep shall be deemed a statute bushel; this contains 2150 four-tenths cubic inches, and from this the corn gallon is deduced of 268 eight-tenths cubic inches; but instead of selling by such measure, the customary bushel of the county varies from eight and a half to nine gallons, each one believing he has a right to make what measure he pleases, provided it be as much or more than statute measure.

In like manner cheese is sold at 120 lb. the hundred weight, instead of 112 lb., which is supposed and deemed a legal hundred weight; but the seller supposes he has a right to add to the number of pounds to the hundred, if he thinks proper, and the buyer agreeing with him it is so done. Mr. Monk says, the following resolutions respect-

ing

ing weights and measures, and enforcing due obedience to the laws, appear to me to be highly praise-worthy; and I flatter myself that every other county in this kingdom will follow so laudable an example.

“ At a general meeting of the several chairmen of the Atherstone, Litchfields Bosworth, and Ashby-de-la-Zouch Committees, and of many gentlemen, farmers, and others, for regulating the buying and selling of cheese, corn, and grain, by the standard weight and measures, held at the Castle-inn, in Tamworth, in the county of Warwick, the 19th of October, 1793, Richard Astley, Esq. chairman, resolved, That, in order to call forth the attention of the public to an obedience of the laws relating to the standard weights and measures, we earnestly recommend all farmers, millers, maltsters, and others, to *buy* and *sell* cheese, corn, and grain, by the standard weight and measure only, and not by any other weights and measures. Resolved, that we will, from and after the 10th day of November next, 1793, cause to be put in force the laws relating to the standard weights and measures, so that the offenders may be brought to justice and convicted.

“ Resolved, that it appears to this meeting, that the methods, which have been taken to prevent the above-mentioned laws being violated, have not had the desired effect; as well also, that no regard hath been paid to the determination of the Court of King’s Bench, in Trinity Term 1792, in the case of the king against J. Major; and also to another determination of the same court in Trinity Term last, in the case of the King against J. Arnold, whereby the justices convictions were affirmed; but that the same laws continue to be evaded and broken, to the very great detriment of the public, and more especially of that useful body of people, the mechanics and labourers, whose welfare we sincerely wish to promote :

“ Therefore

"Therefore, we order our treasurer to pay to every person and persons, who shall inform against any one offending against the same laws, so that such offender or offenders may be brought to justice and convicted, the sum of *five guineas*, over and above the penalties (*viz.* 40s. and the value of the corn sold) which such informer will be entitled to upon such conviction.

"Resolved, that we will not, from and after the said 10th day of November next, 1793, buy or sell cheese, corn, or grain, in any other manner, or by any other weight or measure, than the standard weight and measure.

"Resolved, that we will contribute to any further legal expenses which may be incurred in prosecuting this business; and that such persons, who shall be desirous of subscribing to this meeting, may pay their subscriptions (2s. 6d.) to our treasurer.

"Resolved, that Mr. Owen, attorney, of Atherstone be appointed solicitor and treasurer of this meeting.

"Resolved, that these resolutions be inserted twice in the Birmingham, Coventry, Leicester, Derby, and Nottingham papers; and that 3000 hand-bills, containing the above resolutions, be printed, and circulated throughout the counties of Warwick, Stafford, Derby, Nottingham, and Leicester.

"Resolved, that the thanks of this meeting be given to our chairman.

"RICHARD ASTLEY, Chairman."

Notwithstanding all this, I believe but little alteration has been made, the ancient custom of any particular market still remaining, and the buyer and seller understanding each other, make that the governing principle; of liquids, ale should be sold by the measure of 282 cubic inches to the gallon, but it is generally understood this measure is

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curtailed by the retailer, and that what passes for full measure is only the wine gallon of 231 cubic inches, and that the smaller measures are made in that proportion.

Wool is sold by the tod of 28 lb. avoirdupoise, being two stone to the tod of 14 lb. each; cheese and other articles of food are of course sold by the same weight to the pound, except fresh butter, which is often made a little over the 16 ounces, by the dairy women who take it to market.

The general measure for grain in Leicester market is, as I was informed, 34 quarts or eight gallons and a half to the bushel; whilst according to Mr. Johnson, he sold his oats at Ashby, at nine gallons to the bushel, and between these two measures, I believe the custom of the county fluctuates, except in the article of malt, which is seldom sold at more than eight gallons to the bushel.

SECT. VII.

RESPECTING the price of products, compared with expenses, in articles of great or general demand, the price is sure to find its fair level by competition; for if the profits were considerable in any such article, numbers would be soon found to speculate in the trade, and to push a sale would offer at an under price, till it found its proper level, and this is the case with every article of necessary food except bread, and the public are very probably as reasonably supplied as they would be under any interference from legal authority; the price of every article, clearly enough depends upon its plenty or scarcity, in proportion to the demand; and they who possess articles of
 necessary

necessary food, must either have bought them or raised them at expense, which is similar, and are as much under the necessity of selling, to satisfy other demands, and supply other wants, as the manufacturer of goods, and the competition between different growers, and in different markets, will generally fix a fair price to the consumer.

SECT. VIII.—MANUFACTURES.

THE principle manufactures of Leicestershire are, wool combing, woollen yarn, worsted, and stockings principally or wholly of worsted, the manufacture of which employs a great number of people, not only in Leicester, Hinckley and other towns, but also in the principal country villages throughout most parts of the county.

According to the returns made under the Population Act, the acting population, or number of people employed in trade, within this county, amounts to upwards of 42,000, whilst the number employed in agriculture falls short of 24,000; the number employed in trade is, therefore, to those employed in agriculture nearly as seven to four, and of these, a very large proportion are employed in the manufacture of wool into stockings.

In the town of Ashby are considerable cotton works, erected and set on foot by the late Mr. Wilkes, which employ a great number of the industrious poor of all ages.

In Hinckley and Ashby a good many hats are manufactured; in Castle Donnington and its neighbourhood, a great many of the female sex principally are employed in the manufacture of patent net lace, for lady's veils, &c.

dependant I believe upon Nottingham and its neighbourhood.

Mr. Monk says, "the manufactures of wollen yarn and stockings are lately much increased, and the landed interest much benefited thereby;" if so I met with many, who are insensible of benefits received. Mr. Watkinson informed me that poors' rates were enormously high in his neighbourhood, (but this was in 1801) which he attributed to the number of stockings, who could not maintain their families; and were sometimes, when out of employ, set to work by the farmers; but he observed, they made but indifferent labourers. Mr. King also informed me, that upon the Duke of Rutland's extensive demesnes, poors' rates were low, as there were no stockings, and care was taken that there should be none; the fact is, that with the increased population, occasioned by manufactures, poors' rates increased also, but the consumption of landed produce is thereby increased, and the price advanced in proportion.

SECT. IX.—COMMERCE.

THIS county is well accommodated with commercial conveniences, the Trent washing one of its borders, and the Soar, its own natural river, being rendered navigable into it, and for many miles through the county; this with other conveniences executed or on hand, give it a fair share of commercial advantages.—SEE CANALS.

The principal manufactured export of the county is stockings of worsted, and this must be very considerable from the number of hands employed, and has also hats,
cottons

cottons and lace, as before mentioned to spare: it also sends a large quantity of raw wool into Yorkshire.

Of provisions, cheese is a considerable article of export; not less than 1500 tons per annum, according to the best information; the produce of this county, going down the Trent for the metropolis, or the use of the navy; this at 60s. per hundred, amounts to £90,000.

Of sheep, a very large number bred in this county, are sold fat to London and Birmingham; half fat to farmers in adjacent counties to be finished on turnips, or in store condition to farmers to breed from—**SEE THE ARTICLE SHEEP.** Of cattle a great many are also fattened in this county, more than it consumes, and sold to London, Birmingham, and the populous parts of Staffordshire; these are in part bred in the county, and in part bought in from elsewhere.—**SEE THE ARTICLE CATTLE.**

A good many excellent strong black draught horses, and some of the blood kind, are bred in, and sold from this county; in hogs and butter, I suppose it to be nearly in statu quo; respecting grain it has barley to spare, but certainly a deficiency of wheat, and its oats and beans are eaten by its own horses, as well as its green crops and hay, by other stock.

In minerals, coal and lime are both imported and exported, but it would have a deficiency of the former from its own supply; it can furnish itself with English timber, but in common with the kingdom at large, requires a supply from the Baltic of the foreign sorts, as well as of all other conveniences and luxuries of foreign produce.

Respecting the effects of manufactures and commerce on agriculture, as having a tendency to increase the numbers of mankind, and therewith the consumption of agricultural products, and to add to the general riches of the

country, their effects upon the whole cannot but be salutary; the great consumption of wool in the stocking trade; under the very eye of the grower, must encourage its growth, and enhance its price; the same may be said of provisions in a populous neighbourhood, and as good properties and fortunes are often acquired by master manufacturers, and in commercial speculations, from the natural tendency to realize, the value of land in their neighbourhood is increased; for the value of land generally depends upon the population and riches of its neighbourhood, and the more populous is any neighbourhood, the more inducement, and even means there is to improve the soil, and its value is thus doubly increased, by actual improvement, and by increased demand for its products; that manufactures may sometimes, and often do occasion local inconvenience, must be admitted; but when we consider the resources and riches of the nation, and how far they have been caused by manufactures and commerce, on which they are still in some degree dependant, as well as the improvement and flourishing state of agriculture itself, the benefit and general advantage derived from them is too evident to be called in question.

SECT. X.—POOR.

THE poor of this county are, I believe, in as good a situation as others of the same class elsewhere, yet when we come to consider it, and calculate particulars, it must be pronounced rather pitiable. If a labouring family consists of a man, his wife and four children, they will consume

same in bread per day, if they can get it, 1s.	s.	d.
which is per week	7	0
Rent per week 1s. 6d.; milk suppose 6d.	2	0
Cheese or butchers' meat 2 lb. per day 1s. :		
per week	7	0
Per week necessities	16	0

but the gains of a labourer and his wife will seldom exceed upon the average of 15s. per week, whence it appears that the above allowance must be curtailed, and privations sustained; potatoes from the garden must be substituted in part for bread, and the cheese and meat allowance lessened, for which a pig should be substituted, fed on the premises from the garden and from gleanings; hence will appear the necessity of furnishing labourers' cottages with sufficient gardens and a hog-stye, if the family is to be kept from starvation.

The gains of a manufacturers' family are more, and may be put at a guinea per week; but even then, if we make the above allowance for necessities as stated, there remains only 5s. per week for fuel, candles, soap and cloathing, for the whole family, which are equally necessities; to say nothing of tea, sugar, butter and beer, which if not necessary to existence, are at least necessary to comfort; the labourers' family is placed more on a level with the latter, by an allowance of beer from the farmer, as well as coals drawn, and sometimes other privileges.

Poors' rates.—It appears from parliamentary documents, that the sums raised by poors' rates in this county were in 1776, £26,360, and in 1803, £107,568; increase in 27 years more than four-fold: this last is stated to have been 5s. 2½d. in the pound, upon an estimated rental, but probably not much more than 3s. in the pound, upon the real

annual value of all property.—SEE POORS' RATES.
CHAP. IV.

Mr. Ainsworth says, "in the parish I lived in, I served the office of overseer of the poor, more than once at one shilling in the pound; but in the year 1795, in consequence of the war, and the advanced price of necessaries of life, I had four shillings in the pound, and it did not do. I believe in the county it may now average five shillings; in great towns six shillings, and I have just paid a poors' rate (in Leicester) at two shillings in the pound, for one quarter (the above are upon an estimated rental). Manufactures, he says, affect and raise the poors' rates; their employment is unhealthy, by too much sitting and confinement in one posture, and from the effects of confined air; this brings on consumptions and premature deaths, and poverty brings the wife and children to the parish; this shews that the great author of nature designed the field to be the occupation, as well as the support of man."

Mr. Monk says, "a gentleman informed me, that from a pretty attentive observation he had made of the habits and manners of the poorer classes, that a very small proportion indeed of the expense of supporting them was to be attributed to the sober and industrious poor, whether labourers or manufacturers, the immoral were generally idle and profligate, and there were few villages where their bad habits were not conspicuous;" that mending the morals of the poor would lessen their distress, is not to be doubted, but it is too much to suppose that a very large proportion of such distress can in the present state of things be avoided.

Mr. Ainsworth, who seems to have had experience on the subject, as well as to have studied it with some attention, observes, "the situation of the poor is deplorable; and

and general as it is to exclaim against them, I am of opinion that encouragement would make them better; little noticed while they are wearing out their strength for a bare subsistence, left unassisted or scantily supplied under sickness or accident, so that they are depressed their whole lives after. In regard to sick clubs, some cannot be admitted through age or infirmities; some are prejudiced against them, and some to my knowledge cannot spare from their families the weekly subscription; and when their labour is totally over, they have no better prospect in view than the tyranny of overseers, a badge of disgrace, and the confinement of a workhouse, the entrance into which is to deprive them of the little property they had with hard labour attained by the sweat of their brow and pinching frugality; poor incitements these to care and industry. I could wish by no means to give offence to any, but as I am more conversant with the lower classes than gentlemen can possibly be, I honestly and conscientiously declare this picture is not exaggerated. Would to God it were! I fear it is not in the power of the philanthropic Board to give the spring of encouragement, to communicate the most extensive relief to them; if they could, they would bear the nearest resemblance to the source of all good, who showers his blessings with a liberal hand on all without distinction. If a large population be the strength of a nation, it occurs naturally that the lower classes of that population are entitled to legislative assistance, to ameliorate their condition; and as every one thinks they have some natural right to the use of the ground, so most persons are willing to assist in harvest. Land originally was open and equal to all, and though one acre of land enclosed is worth more to the community than many acres in its natural state, yet when this appropriation first began, the poor were deprived of their egress and regress; to compensate them

them for this loss, a public fund ought to be raised and supported by people of property, to pay annuities to the aged, infirm, and those in distress, by which means the contributors would soon be gainers by abolishing entirely the poor's rate."—*Ainsworth*.

It appears from the observations on the Poor's Laws, by the Right Honourable George Rose, M. P. compared with other authentic documents, that the sum raised by the poor's rate in England, in 1803 was - £5,161,813

The sum expended on the poor in that year 4,267,000

Of which law suits and overseers' expenses took 190,000

It may therefore be admitted as a general rule, that in every five pounds raised by the poor's rate, one pound is applied to other purposes, as county rates and constables, churchwardens, and other expenses, which to save trouble in collecting are in many parishes paid from the poor's rates.

There is no reason to suppose the poor's rate has increased since 1803, as the seasons have been generally favourable, and corn comparatively reasonable; the average annual sum now raised in England, upon eight millions of people, by the poor's rate, may be called five millions, this is 12s. 6d. per head upon the whole population; of this four millions is actually expended on the poor, and the other million applied to other purposes; the assessed rental of the kingdom is 24 millions and a fraction, but the property tax near 34 millions, the poor's rate is therefore 4s. 2d. in the pound upon the former, and not quite 3s. in the pound upon the latter; the number of poor persons relieved were 83,463 including children in workhouses, at £12 3s. 6½d. per head - £1,016,422 16 11½

And 956,248, including children re-

lieved at home, at £3 3s. 7½d. per

head per annum - - 3,042,053 19 0

Total relieved 1,039,711—Expense 4,058,476 15 11½

Twelve

Twelve in a hundred, including their families are paupers.

The numbers in friendly societies are 704,350.

An ingenious friend, who has had considerable experience amongst parish poor, and paid attention to the subject, says where parishes are small and not very populous, it is entirely owing to bad management, if the poor are not well provided for and the payment easy; and where they are large it would be much better for each hamlet or division to provide for their poor separately, as their wants are thus much better known: he thinks the custom of choosing fresh overseers every year a bad one, they being generally strangers to the business, and by the time they have acquired some little knowledge of it, leave it to others as as incompetent as they were themselves; and such persons, however respectable, have seldom leisure to bestow the necessary attention to the situation and wants of the poor without neglecting their own concerns; hence in extensive parishes, a proper standing overseer should be appointed with a competent salary, and his accounts and reports, examined monthly, by a select committee appointed by the parishioners, who might also attend, if they thought proper.

When poor families are in distress, from sickness or misfortune, he thinks it much better to relieve them liberally on the occasion, than to commence and continue weekly pay, which growing into a habit, becomes a permanent expense; and much time is lost in large parishes by poor people going a great distance to obtain such pay, which is another inducement for large parishes to separate.

The wants of a farm labourer he says are trifling, compared with the poor in trade, who often contract habits of going to public houses, and spending on themselves what should be shared in their families, and thus bring a burden

burden on the public ; respecting workhouses where poor people are kept clean and orderly, it is so far good, but there is a great loss sustained where they are not properly employed ; it is much better to employ them, if possible, in work they have been accustomed to, than to teach them any thing new : it is much to be lamented that in many of these, improperly termed workhouses, the inhabitants are kept in a dirty, idle and vicious state ; the industrious poor are of great benefit to society, and the lazy are its greatest burthens ; it is better to have no workhouses, unless they are well managed, and the strictest attention paid to the poor, respecting their cleanliness, their morals, and their industry.

Respecting the poor in large towns, where numbers are congregated together, the management of Shrewsbury House of Industry is recommended to attention, of which a satisfactory account has been published by the late Mr. Wood, whose memory will be long respected for his services to the town of Shrewsbury, and the public in general, and to the poor in particular.

The encouragement and extension of box clubs, or friendly societies, under proper regulations, is by many supposed to be a measure capable of removing and relieving much distress, and much benefit to society has already been derived from them ; but there is still wanted a further improvement, and it would be well if there was a handsome premium offered for the best plan of the kind : the present custom of all the members meeting periodically at a public-house, is subject to inconveniences, as tending to promote and encourage carousals, undue hours and irregularities, particularly amongst loosely inclined members. It is thought by many persons, that as every one capable of labour, may contribute a trifle weekly to a fund for supplying the wants of the poor in distress, that this, if properly assisted

assisted by those who already pay to the rates, and the whole properly applied, a fund might be established, that should, at no very remote period, prevent the payment of any other rates whatever.

It seems now to be generally understood, that every institution of this kind must be voluntary, and not be enforced by any compulsory law; in the latter case it becomes a tax instead of a voluntary contribution, and thus changes not only its name but its nature. In some of the friendly societies in the country, a payment of 2d. per week by each member has been known to be sufficient, not only for all claims upon the box caused by sickness or accident, but has also produced considerable accumulation; in towns and many places 3d. per week or 1s. per month is more common: if some plan could be devised, by which every person paying voluntarily to the overseer of the poor 3d. per week, or 1s. per month, should be entitled to receive 9s. per week in sickness, 7s. per week upon superannuation, or 3s. 6d. per week after 60 years of age, or after having contributed 20 years, after which length of time individual contributions should cease, it would do away the inconvenience attending ale-house meetings; to the above payments may be added decent funeral expenses, and a payment to widows or survivors, upon the plan of the best friendly societies, as well as the admission of females upon proportional terms, and with similar advantages.

The whole population of England and Wales is now nearly nine millions, of these one half may be under 20 years of age

-	-	-	4,500,000
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Between 20 and 40 suppose	-	-	3,000,000
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Above 40	-	-	1,500,000
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If one half only of the middle class were to come forward, voluntarily to pay 3d. per week, and the different parishes were to meet it with an equal sum, this would

amount

amount annually to about two millions, of which one million would meet all the demands for payment, and one million might be annually funded; this in 32 years at compound interest would amount to 80 millions; the interest of which would be equal to the sum at present expended on the poor, and consequently the poor's rate if not increased, might then be abolished; but it is hardly to be expected that the different classes interested, should be brought cordially to unite in a measure of such magnitude, or even that compulsory means would be successful. What then remains is to encourage by fair means and bounties, those voluntary contributions, and to divert them from ale-houses as much as possible.

In a pamphlet, by Lord Somerville, on Wool, and other important subjects, are several projects for relieving the poor by contributions, instead of the present poor's rate; but the general opinion seems to be, that such contributions must be voluntary and not forced, otherwise they partake of the nature of a tax on the lower classes to relieve themselves.

In the different reports of the society for bettering the condition of the poor, are also many humane proposals for their relief; but these being already before the public, need not be detailed here.

SECT. XI.—POPULATION.

THE population of this county, at the conquest, is stated in Nichols's History to have been 34,000; in 1789, it was estimated at 85,000; but this I suppose to have been an under estimate, as in 1803, under the Population Act, the

the following returns were made; total inhabitants 130,081; males 63,943; females 66,138; houses 25,992; families 27,967; employed in agriculture 23,823; in trade 42,036, and the inhabitants upon a square mile 159, the average of England and Wales being 152.

In 20 parishes of Framland hundred, the north part, containing 5731 inhabitants, upon an average of 20 years the deaths were 1 in 48 per annum.

Bottesford, 1 in 36 ditto.

Godeby Maureward, 1 in 76 ditto.

Baptisms. Burials. Marriages.

Melton Mowbray for 20 years, from

1547	-	-	565	338	147
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Do. for 20 years ending 1789	-	-	803	743	262
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A tradition of the plague being at Melton in 1636, and 1637, in 1636 were 122 burials.

In 1637, 405 ditto, not more than 60 having been in any former year.

Births and Burials in Sundry Places.

Births. Burials.

Burton Lazars, in 20 years from 1713	-	-	100	100
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Do. last 20 years to 1794	-	-	140	80
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Freby, from 1604 in 20 years	-	-	90	50
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Do. last 20 years to 1794	-	-	50	40
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Burton Overy, for 5 years ending 1575	-	-	57	22
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Do. last 5 years to 1794	-	-	76	50
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The two Kibworths, Smeton and Waterby,				Acres.
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200 dwelling houses in the three	-	-	-	3950
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In 5 years from 1575	-	-	125	100
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Last 5 years to 1794	-	-	164	103
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Foxton, 1755 acres, from 1690 in 5 years	-	-	39	18
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Last 5 to 1794	-	-	58	45
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Whetstone, 2025 acres, from 1595 in 5 years	-	-	57	40
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Last 5	-	-	79	72
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Blaby, 1750 acres, 100 houses.

From

		<i>Births.</i>	<i>Burials.</i>
From 1560 in 5 years	-	29	12
Last 5	-	102	57
Kilby, 1020 acres, a former period of 5 years		17	17
Last 5	-	40	36
Wistow, 892 acres, 5 years to 1588	-	25	18
Last 5	-	41	26
Fleckney, 60 dwellings, 1300 acres, 5 years to 1586	-	29	27
Last 5	-	21	22
Ansty, 800 acres, 5 years to 1577	-	39	22
Last 5	-	92	68
Newton Linford, 60 houses, 5 years to 1653		45	39
Last 5	-	45	42
Swithland, 5 years to 1676	-	25	15
Last 5	-	39	30
Husbands Bosworth, 150 houses, 5 years to 1568		60	42
Last 5	-	71	72
Lutterworth in 1780 had 370 houses, 1784 souls.			
In 40 years there had been	-	1728	1743
In 5 years ending 1653	-	184	162
Last 5	-	206	250
Many dissenters not registered—Wickliff rec- tor here.			
Loughborough, 5 years ending 1539	-	280	181
Last 5	-	701	468
Market Bosworth, 150 houses, 5 years ending 1653	-	65	84
Last 5	-	94	59
Harborough, 5 years ending 1584	-	78	51
Last 5	-	149	145

General Recapitulation.

		Former period.		Latter period.	
		<i>Baptisms.</i>	<i>Burials.</i>	<i>Baptisms.</i>	<i>Burials.</i>
1. Towns					
Melton Mowbray in 20 years	-	565	338	803	753
Lutterworth in 5 years	-	184	162	206	250
Loughborough Do.	-	289	181	701	468
Market Bosworth Do.	-	65	84	94	59

Harborough

		Former Period.		Latter Period.	
		<i>Baptisms.</i>	<i>Burials.</i>	<i>Baptisms.</i>	<i>Burials.</i>
Harborough	Do.	73	51	149	145
2. In 14 country parishes ditto		737	522	1018	744
		1913	1338	2971	2419
Deduct Lutterworth on ac. of Dis.		184	162	206	250
	Remains	1729	1176	2765	2169

These particulars were collected by Mr. Throsby, late town clerk of Leicester, whose accuracy is not to be suspected; but it is very probable many births are omitted, on account of the parents being dissenters, who baptize privately, but bury at the church. The length of time between the two periods may be reckoned 200 years, the population in that time by the burials is increased in the proportion of five to nine, by the births only as five to eight.

The increase of population in this county, has doubtless been owing principally to manufacturers, who, in the different branches of trade compose seven parts in eleven of its inhabitants; the remaining four-elevenths being employed in or connected with agriculture, there is reason to believe, that the agricultural population has not increased during the last half century, a general enclosure has nearly taken place, and large tracts of the ancient common fields are now rich pasture land, so that the growth of beans and wheat, and particularly the former has much declined, in favour of breeding and fattening sheep and cattle; with wheat it certainly does not now supply itself, yet being in the midst of a fertile part of the kingdom, the price of bread does not exceed average.

Respecting cottages, the master manufacturers, have supplied habitations to what workmen they wanted; and every kind of food is in abundance at an average price; the district is well peopled, but has large quantities of animal

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food

food to spare; the county is certainly healthy, as any part of the kingdom; but the greatest mortality is in towns, as the above table will show, in which the number of deaths approach the births, much nearer than in the country parishes, though Loughborough upon a gravelly, sound, dry soil, seems an exception.

The modes of living are good, and rather inclined to luxurious. Wheaten bread, with beef, mutton, cheese and butter of the best, are the principal diet of all who can raise it, as well as vegetables and beverage in perfection; and the want of which is only known by those in poverty and distress, and whose feelings prevent their applying for relief.

CHAP. XVII.

OBSTACLES TO IMPROVEMENT.

THE improvements in this county have been caried on with considerable spirit and rapidity, both in live stock and pasture for their support ; this may in a great measure be attributed to a considerable proportion of the land being in the hands of opulent occupiers, who are either the owners, or who, by their success in grazing or breeding speculations, have been enabled, and encouraged to prosecute and persevere in such improvements.

That many improvements in land are checked, kept back, and stifled, for want of sufficient capital in the occupier, cannot be doubted ; in such case it would be well if the landlord or his agent would come forward to advance the necessary sums, charging interest for the same by laying it upon the rent, which the occupier can always afford to pay for real permanent improvements, such as draining, watering, manuring, fencing, &c. and the landlord would have the best security, being freehold already in his own possession, and the value increased either as income, or for sale.

Respecting prices, that of all kind of landed produce is now sufficiently high, to excite every endeavour and exertion

tion to increase the quantity; and in the present state and probability of things, there is no reason to fear the want of a demand at market, nor any danger of overstocking such demand; the only thing to fear is, that the consumers should not be able to raise and pay for the necessary supplies; and this must depend upon our commercial relations, and the demand and vent for our manufactures; the farming labourer must always have it in his power to pay for necessaries, or the increase and produce of such necessities will naturally be checked, and would diminish of its own accord, but this cannot happen without some public calamity.

The expenses of all improvements in agriculture, naturally keeps pace with the price of labour, and this latter being governed by the price of provisions, produced by agriculture, the wheel goes round, and real improvements cannot be checked permanently by expense of labour, because the increased price of produce will meet that labour, with the advantage of increased quantity; increased expenses may however be an obstacle to improvement upon limited capital, which should be removed as above.

Land not enclosed.—The obstacles to improvement upon such, will not easily be removed, but by subdivision and enclosure; there is not a natural disposition in society to unite and act together cordially for the general good; each one wishes the advantage and benefit of his own exertions to be secured to himself, or to be at his own disposal to his nearest connections; or commons and waste lands might be improved, by extirpating the rubbishy produce, and then by draining and improving the herbage; and common fields by cleaner fallowing necessary draining, and introducing grass seeds and pasture in rotation with corn crops; but this, the experience of past times forbids

as to expect, and it remains, that for their improvement in any considerable degree, they must be subdivided, allotted, appropriated and enclosed.

Tithes in kind, as an obstacle to improvement, and the cultivation of land, have been already touched upon. Where not commuted they certainly lessen the breadth of corn grown, as many occupiers subject to tithes, prefer sheep pasture, and plough less on that account; these effects of tithes upon agriculture, and its improvement, are certainly sufficient reasons why an equivalent should be thought of, and substituted in lieu thereof.

Poors' rates.—I am not aware that these, when high, operate generally against improvements, otherwise than by draining the land occupier of money that might be so employed: high poors' rates implies a populous district or neighbourhood, and if permanent, rents must be in some proportion lower, but every petty article of landed produce being in demand gives some additional value to the land, and is so far a spur to improvement. There have been local instances of poors' rates rising to nearly the value of the land, but this is an evil that must stop at a certain point, or the country where it occurs must be deserted; poors' rates are highest in populous districts, and where the land is generally of greatest value, and will best pay for improvement.

Leases.—The want of leases is generally considered as an obstacle to improvement, as few tenants will care to risk much expense upon an uncertain tenure. Mr. Monk observes as follows:

The spirit for improvements is very great in this county, particularly by those who cultivate their own estates. These men, after expending vast sums of their money for various improvements of their lands, are (when well laid out) certain that they or their families will one day reap the ad-

vantage of it. Not so with the tenant, who only is allowed to have his estate from year to year. This I look upon as a public misfortune, because, wherever this is the case, it is impossible that any capital improvements can take place (at least by the tenant). What farmer in his senses will be at any very considerable expense and trouble more than absolutely necessary in the improvement of lands, which he holds only from year to year? Some improvements cannot be made but at a very heavy expense, particularly marling upon *dry*, and draining upon *wet* lands. These valuable exertions cannot be expected from tenants at will.

A number of the pastures are shamefully over-run with ant-hills, and to so very great a degree, that in many of them the surface of one-third of the land is nearly thus covered. If you ask the farmer the reason he does not take them way, the constant answer is, "We are not suffered to use the plough, and we cannot remove them without a very heavy expense by any other method, which will not answer, as I may very possibly never be repaid, being only tenant at will."

Some of the lands are thrown into broad ridges, and, being wet for want of draining, the furrows, which are very deep, are full of rushes and other trumpery. If these lands were properly drained and laid flat, the value of them would be much increased both to landlord and tenant. On enquiry, I seldom found the lands which were occupied by the owners, overrun with ant-hills.

I have been told that the tenants are perfectly contented without leases: that, however, is questionable; and no one circumstance, I am persuaded, could tend more to the advantage of the landholders than granting leases under proper restrictions, which is very easy to be done, as it is in other countries, to the mutual benefit and satisfaction of both parties. Without leases, is it to be wondered at,

that farmers should be backward in their improvements? Even allowing that they are satisfied with their present landlords, still they are at no certainty, for life is very uncertain, and there is an old (and very true) saying, that new lords new laws. I am certain that, if leases were granted, the tenants in general would have no objection to an advance in their rents; for, being at a certainty, they would exert their industry by improvements; the advantage of which, in the course of years, would more than counterbalance their additional expenses.

Nothing has retarded improvements more than noblemen and gentlemen of large fortunes employing stewards who are ignorant of the principles of agriculture; they ought always to be men well versed in the science as well as practice of agriculture. This is not generally the case (I do not speak merely as to Leicestershire): therefore a spirited tenant, who would improve his landlord's property as well as his own, is prevented from exercising his talents to advantage. This is a subject of the utmost consequence, and cannot be too much attended to. Surely the barely receiving the rents, transmitting the same to the landlord, and keeping the accompts, are not all the requisites of an agent, where so much is at stake.

Want of disseminated knowledge.—As ignorance is one of the greatest obstacles to improvement, the way to remove it must be the dissemination of useful knowledge.

“ Art has no Enemy, but Ignorance.”

The following proposals for the general increase of information has appeared in some of the periodical papers. As a friend to general knowledge, and universal improvement, I think it worthy of preservation in this place, and of the consideration of the leading persons in different parishes, villages, or communities.

A Plan for Village or Parish Libraries.

It is proposed to establish in every village or parish, a small library, consisting chiefly of books of agriculture, history, modern voyages and travels, and other subjects, of rational instruction and general utility. The funds for commencing and maintaining such a library, to be raised by a subscription of five shillings per quarter, for three years, and of half a crown per quarter afterwards.

The resident clergyman for the time being, to be president of the society, and a treasurer to be appointed annually from among the subscribers; the subscriptions to be received, the accounts to be kept, and the books to be circulated and registered by the parish clerk, or by the parish schoolmaster, who, besides having the use of the books for his own reading, is to be entitled to the fines.

The books to be kept in the vestry room, or at some other convenient place, in a room which shall be accessible to the subscribers, and attendance to be given there at proper stated times by the librarian, to deliver out and receive in the books.

Quarterly meetings to be held of the subscribers, at the place where the books are kept, when new books are to be ordered, accounts stated, and regulations formed; no book to be kept for reading more than a month, under the forfeiture of one penny per day afterwards, and no magazine, review, or pamphlet, to be kept more than a week under a similar penalty.

The first object of such a society, should be to possess itself of the County Reports, and publications of the Board of Agriculture, of Gregory's, or some other Encyclopedia, of a set of Arrowsmith's, or other good Maps; Dickson's Agriculture, a System of Geography; Mayor's Universal History; Johnson's Dictionary, Hume's and Belsham's

Belsham's (last revised edition) History of England; it should also begin to take in for periodical circulation; the Annals of Agriculture; Bath Reports; Monthly Magazine, an impartial Review not addicted to any particular sect or party; and the Journal of Modern Voyages and Travels; to these I shall add the Flora Rustica, Curtis's Botanical Magazine, and Flora Londinensis; and for the use of those who would make any proficiency, Withering's Botany, and Berkenhout's Synopsis of Natural History, as well as any other similar publications, the expense of which may come within the means of the Society; nothing can be more adapted to a country residence than the study of Botany and Natural History, and it is astonishing to consider the ignorance of mankind in general, of the objects that immediately surround them; very few are acquainted even by name, with plants the most common, except those they cultivate, or find injurious; yet nothing can be more obvious, than the improvement by cultivating a new and useful plant, the neglect of which is owing to ignorance of its qualities, and the difficulty of gaining information; the study of Natural History is easy, simple, and adapted to either sex; and a more general knowledge of it could scarcely happen, without being followed by considerable improvements.

The library to be considered as the property of the subscribers, and of their resident heirs and successors so long as they shall continue to pay their quarterly contributions, within twelve months after they become due; but any parishioner, may at any time, be at liberty to become a reader of the library, on paying three shillings for a single quarter.

To establish such a library, it seems only requisite that a fair copy of this plan should be affixed to the church door, that the clergyman or parish clerk should solicit the names of the chief parishioners, and as soon as a dozen shall have

have paid their first subscription, the society might be considered formed. Should any nobleman or gentleman lend his countenance to such plan, and contribute a donation of ten or twenty pounds, the establishment could scarcely fail to be permanent.

I know that many persons have set their faces against the too great dispersion or dissemination of general knowledge amongst the mass of mankind, as conceiving it has a tendency to make them feel their own equality and independence, and to act accordingly; but I cannot doubt but that the better informed any individual or community is, the more inclined they will be to do their duty in society, and the more capable or susceptible of improvement in themselves, general, moral, or mechanical, or of adopting the improvement of others.

Mr. Ainsworth says, "prejudice is the great obstacle to improvement; and when the nation encourages agriculture as much as they have war, then will there be general improvement. Agriculture is not sufficiently respected. The beau monde look upon husbandmen as a mean race, and upon the authors of husbandry as insignificant tools, and the employment itself as becoming none but porters, and the like, though it is to the rise or fall of it that their well or ill being depends. But the wary Chinese manage these things better; for we are told that the emperor and his mandarins hold the plough one day in each year, and by such example make the employment respected. Schools of agriculture and experimental farms are much wanted. The ancient Romans considered agriculture as the most noble of all occupations, and encouraged it by the enfranchisement of all strangers who they observed to till their lands well. Cressinus, according to Pliny, was delivered from his bondage, because he had in a little spot of ground produced fruits much larger and finer than any of his neighbours

neighbours in their larger demesnes, and was held in great honour amongst them. To follow such examples, by rewarding all persons who are really useful, either in their theory or practice, would be attended also with beneficial effects. The presses ought also to vibrate the antiquity, the grandeur, the honourable employment, and the absolute necessity of agriculture above all other employments; but, above all, schools of agriculture, and experimental farms, should be established in every county. This deficiency was complained of by Columella, who wrote 1500 years ago. He says, the knowledge of husbandry and rural affairs, which was, without doubt, in his opinion, the nearest of kin to wisdom itself, wanted, as well as those who were to learn, masters to teach it. Even now, says he, there are schools for rhetoric, geometry, music, &c. but that he knew nothing of any teacher of agriculture, by which they might be profited, nor disciples or scholars to learn it. The tutors of universities, academies, and schools of learning, would do well to consider, in the directions they give, and the pains they are, or ought to be at, in the education of young noblemen and gentlemen, whether, instead of the study of these volumes of logic, ethics, metaphysics, and a good deal more of that learned lumber, which young students are puzzled with, and spend their time in, to little or no purpose, whether they should not substitute lessons in agriculture, which might prove more beneficial to themselves, and more useful to the community. Of such importance was this held in Scotland, that in the year 1790 they instituted a professorship in one of the universities for the study of agriculture; and it is much to be lamented that a similar institution has not taken place in the universities of Oxford and Cambridge, as it would essentially tend to the promoting of this important branch of knowledge, so highly necessary to mankind. Lord Molesworth says, as to agriculture, I would humbly propose

propose that a school for husbandry was established in every county, where an expert master in the practice of agriculture, should teach at a fixed salary. Cowley wished to see a college founded in each of the universities, for promoting the knowledge of agriculture; and the ingenious Mr. Harte proposed to open an academy for teaching agriculture, to which I would add botany and natural history; for, according to experience and observation, the proper time to infuse the knowledge of natural philosophy, is in the earlier stage of life, when there is a curiosity and impatience after knowledge; and if practice could be joined to theory, by means of experimental farms, amusements in the field, enjoying the open air. Exercise and activity agrees well with the turn and cast of young people, and a perpetual variety, which is very engaging at their time of life, would attend such pursuits. It is a point gained without doubt, to read the husbandry works of Cato, Varro, Virgil, Columella, Hesiod and Xenophon, with taste and knowledge: it may open a new walk on classical ground, and in all probability give young men certain predispositions in favour of agriculture; and it is hardly possible but that a gentleman must lose by husbandry unless he understands it."—*Ainsworth*.

Depredations of Vermin.—The common red, or earth worm, is injurious to pastures, by fouling them with its castings; but I believe it to be less common in Leicestershire than in some other counties, on account of the loamy nature of its soil, through which this worm cannot bore with the same facility as in lighter soils: the mole is well known to be an enemy to this worm, by devouring great numbers; but being injurious itself, cannot be trusted to. It is believed, that in arable land, winter ploughings, by turning them up to the severity of the weather, is a means of destroying these and other injurious insects, who take
shelter

shelter in the earth; and that a good dressing of lime, from its acid quality, is a means of incommoding them, and preventing their increase; but in land where paring and burning can be properly introduced, they are most effectually extirpated by that process, followed by immediately ploughing in the hot ashes.

2. Of the *slug* I know little, except that it sometimes injures turnips and other herbaceous plants; its depredations are said to be mostly committed in the night, and Mr. Vagg's proposals for destroying them by night rolling are well known.

3. *Rats and mice*.—The mischief done by these voracious animals is well known; to prevent it in wheat, the stack should always be set upon a proper staddle, which is easily constructed so as to prevent their entrance. Weasels are their natural enemy, and destroy many of them, and should therefore be spared on that account; but they are also very destructive to game when young and helpless, and on that account, will not, I suppose, be spared. The use of cats and a good vermin dog are well known; and an effectual method to get rid of rats, is by often hunting and harassing them with ferrets, which will destroy, or drive them from any premises: they are also sometimes destroyed by poison; but this should be done with proper caution, to prevent serious accidents; and many kind of traps are used successfully in their destruction.

Moles should not be suffered to become too numerous, though they are great destroyers of worms, as they give the ground an uncouth appearance, and do considerable injury in corn and grass. The method of catching them in traps is well known, but generally followed by professional men, who clear their neighbourhood; they may be caught at any time of the year, but best in the month of March, when

when they are more active and in motion than at any other time of the year.

Sparrows.—Some are of opinion that these birds are of service in destroying insects; however that may be, they are so numerous, from their prolific nature, and withal so voracious, as to do great mischief in corn crops, especially between its blossoming and ripening, when in small closes, near villages or hedge-sides, they will almost destroy a wheat crop: to prevent their ravages, hedges should be always plashed and trimmed against wheat; and a tender kept, with clappers or a gun. They harbour in, and do great mischief to thatched buildings; to lessen their numbers, and prevent their increase, nets should be used in winter, and attention should be paid to thinning them in breeding time, by taking their young; in many parishes, bounties are very properly paid by the church-warden, of so much per dozen upon their eggs, and a higher bounty upon their heads; but, in general, the destroying of them is not sufficiently attended to.

With respect to rooks, they are generally supposed to do more good than harm; they are certainly serviceable in clearing the ground of various kinds of worms and caterpillars, which are prejudicial to grain, clover, grasses, and other plants; and will often attend a field ploughing in great numbers, to feed in the fresh furrows; but I suspect, when such food fails, they will devour grain either in the seed or the crop.

Pigeons likewise are of service in picking up the seeds of divers injurious weeds, but are very apt to make free in a pea field, both after sowing, and before harvesting the crop, where they will sometimes commit great depredations, if not kept off by a teuder. These birds, as well as rooks, are sometimes attempted to be kept off a crop
by

by a mawkin or scarecrow ; sometimes by a rattle, going by the wind, and sometimes by hanging up some of their own species in effigy.

The destruction of grain, after it is sown, by field mice, is said by some to be considerable; the tussocks of wheat seen to arise in many fields, are generally owing to the granaries of these animals, which are often found to contain near a hat-full of corn, and which grows into a tuft if the owner be accidentally destroyed.

It is also asserted, that they feed much on the young plants, as they arise from the seed, and multiply at that time very fast; their habitations are detected by small mounds of earth being thrown up on or near the apertures of their dwellings, by attending to which their nests may be destroyed.

Garden beans, pease, &c. are often dug up or devoured by these voracious little animals, which may be destroyed by traps baited with cheese ; or best of all, by the encouragement of the breed of owls, so active in the pursuit of nocturnal vermin, and thence so useful to the farmer and gardener, who still permit their servants and children to destroy both their eggs and callow young.

Water rats do great injury to vegetation, by making innumerable burrows beneath the soil, and feeding on the roots of a great variety of vegetables ; they will also destroy young ducks, rabbits, and chickens, and devour with avidity, every kind of food with which poultry and swine are usually fed, and hence are many ways injurious in situations near water.

The following receipts for poisoning these mischievous vermin, are from the papers of the Bath Agricultural Society, and said to have been attended with great success :
 1. To a quart of oatmeal add six drops of oil of Rhodium, one grain of musk, and two or three of the nuts of nuxvomica,

vomica, finely powdered; make it into pellets, and put them into the rat holes: this was at first greedily eaten, and did great execution; but the wise animals, after a time, ceased to eat it. 2. Three parts of oatmeal, and one of staphisagria, (staves acre) mixed well into a paste with honey; pieces of this paste were laid in their holes, and again did great execution. 3. A large box was laid down on its front side, with the lid supported open by a string over a pulley; and by trailing toasted cheese and a red herring, from their holes to this box, and placing oatmeal and other food in this box, which they are, for a few nights, permitted to eat unmolested; and finally, to watch them by moonlight, the inside of the box being painted white, and when many of them are seen, to let down the lid, by which contrivance, sixty of them were taken at once.

Dr. Darwin states, that the rats of America are so affected with the tape worm, as supposed much to diminish their numbers; and adds, could not some of these diseased rats be imported, to propagate their malady,

Insects.—Wheat is sometimes destroyed in great quantities by a grub, or worm, biting it off beneath the surface, in the spring, at the joint, which contains a saccharine juice, of which insects are very fond; young clover is also equally injured from the same or a similar cause; the greater part of the crop in a whole field will sometimes disappear in the spring, although it had been thick enough on the ground in autumn; this is by some farmers attributed to the grub, by others, to the ground being tired of clover. Wheat thus preyed upon, falls down and withers, by which many crops are destroyed in some seasons.

This depredation Dr. Darwin supposes to be committed by the worm or caterpillar of the fern chaffer, (*scarabæus solstitialis*) which he has sometimes observed to emerge from

from the ground in spring, in innumerable multitudes; to prevent the evil, he advises to roll the ground early in the morning and late in the evening, to squeeze the depredators, and consolidate the ground; top dress with slacked quick lime, or salt, or tar water, or soot; and it is very probable, that if the land be limed previous to sowing the wheat, it will less encourage these insects.

With respect to clover, laying down the land in good heart, and well liming with or for the last crop of grain, seems the best preventative. When the clover plant is of vigorous growth in the spring, it is less liable to be checked by insects; and I believe lime renders the soil less palatable to them, and tends to prevent their increase.

A small winged insect, the thrips *physapus* of Linnæus, is also said to attack the late flowering stems of wheat; to prevent this evil early sowing is recommended.

For some account of the turnip fly, and other insects injurious to that plant.—SEE TURNIP CULTIVATION, CHAP. VII.

CHAP. XVIII.

MISCELLANEOUS ARTICLES.

AGRICULTURAL Societies.—Mr. Monk states, 1794, "There is a Society which meets annually, on the fourth Wednesday in October, at Leicester; it consists of about one hundred members; the Earl of Moira is the president; William Pochin, Esq. M. P. and J. Peach Hungerford, Esq. vice-presidents." This society still continues, with the same president; but the vice-presidents and time of meeting are altered. The following is their last advertisement, 1807:

Leicestershire and Rutlandshire Agricultural Society.

At the annual meeting of the Society held at the Three Crowns Inn, in Leicester, on Friday, the 2d day of October, 1807,

PRESENT,

Col. Noel, M. P. V. P. in the Chair.

Rev. Charles Swann,	J. E. Carter, Esq.
Mr. William Chapman,	Mr. Watkinson,
Mr. Rudkin,	C. W. Pochin, Esq. M. P.
Mr. Samuel Stone,	Edwyn A. Burnaby, Esq.
C. Winstanley, Esq. V. P.	Mr. John Burgess,
Mr. Honeyborn	Robert Kirk, Esq.
Mr. J. P. Stone,	Mr. Allsop,
Mr. Thomas Stone,	Dr. Alexander,
Mr. Grahame,	Samuel Miles, Esq.
Peter Oliver, Esq.	Mr. Warren.

The following premiums are offered for the year 1808 :

To the person who shall produce the best estimate of the comparative advantage between the use of oxen and horses in husbandry work—25 guineas.

To the person who shall make the best comparative experiment between the effects of fresh dung and rotten dung, arising from the same species of animal and forage, upon grass land within one year; the extent not being less than one acre for each kind of dung—10 guineas.

N. B. Dung not to be considered as fresh after the third day.

To the person who shall, on the day of the annual meeting for 1808, produce a pen of five of the best fat shearhogs, to have been fed with grass, hay, or roots, and not to have had corn or cake—10 guineas.

For the second best pen of the same—5 guineas.

For a pen of five of the best 2-year old wethers—10 guineas.

For the second best pen of the same—5 guineas.

For a pen of five of the best fat shearhogs that shall have been bred and kept on natural grass alone, respect being had in this, as also in the preceding classes, to the quality and quantity of the mutton, as well as to the quality and quantity of the wool—10 guineas.

For the second best pen of the same—5 guineas.

For a pen of five of the best 2-year old wethers—10 guineas.

For the second best pen of the same—5 guineas.

For a pen of five of the best ewes, to be shewn at the annual meeting for 1808, which shall have produced and reared lambs at two years old, and the following year, the lambs not being taken from the dams until Midsummer (old stile) in each year, to have been fed with grass, hay or roots, but not to have had corn or cake—5 guineas.

For a pen of the same number of ewes that shall have been kept on natural grass alone—5 guineas.

For the best conducted experiment for ascertaining the relative profit of different breeds of sheep in wool and carcass, strict attention being paid to the quantity of food each breed has consumed; the weight and value when put up to feed, and when taken off, being specified, and to have been fed with artificial food, with the exception of corn and oil cake—10 guineas.

For the second best experiment—5 guineas.

For the best conducted experiment for ascertaining the relative profit of different breeds of sheep in wool and carcass, the same attention being used in this as in the last class, to ascertain the quantity of food consumed, the weight and value of the animals, when put to feed and taken off, to have been bred and kept on natural grass alone—10 guineas.

For the second best experiment of the same—5 guineas.

Note.—These premiums will not be allowed, unless the experiment in every case has extended to at least 5 sheep of some distinct breed.

For the best ox under three years old, the time when calved being ascertained as nearly as may be—6 guineas.

For the second best ditto—4 guineas.

For the best ox under 4 years old—5 guineas.

For the second best ditto—3 guineas.

[To have been fed with grass and vegetables.]

For the best ox that shall have been worked from 3 years old off, to 6 years old off, or longer, the age being specified—8 guineas.

For the second best ditto—4 guineas.

[To have been fed with grass and vegetables or oil cake,
but

but in case the latter has been used, an account of the quantity consumed to be produced].

To the person who shall make the best experiment and shortest report on the practical effects of lime upon the various sorts of land—20 guineas.

To the person who shall state the best manner of forming compost dunghills, mentioning their materials, quantity, and place—5 guineas.

For the best conducted experiment, ascertaining the relative advantages to be derived from soiling or grazing cattle in the usual way—10 guineas.

The same experiment for sheep—10 guineas.

To the person who shall have cleared not less than 5 acres of land from ant-hills, within one year, in the best and most effectual manner, the expense being stated to the committee, and it being understood that no premium will be allowed without proof of the efficacy of the measure for 3 years—20 guineas.

The following premiums are offered for servants.

To the person having had the care of sheep, to be exhibited for the premiums, that shall appear to have rendered the most effectual service to his master, in the capacity of a shepherd—3 guineas.

The claim for this premium to be accompanied by a testimonial from the master, as to the good conduct of the man; which testimonial is to state the number of the sheep under such servant's care, the number of lambs reared, and other circumstances connected with such servant's duty, so as to enable the committee to form a correct judgment of his merit.

To the man who shall make the experiment as to dung, for which a premium shall be obtained—1 guinea.

To the servant that shall be employed in working of

horses and oxen in husbandry work, on which a premium shall be awarded—2 guineas.

To the man who shall cut, lay, or plash an hedge, in the best and most effectual manner as to the preservation of the quick, and for making it a fence, the same to be ascertained by the owner and two of the committee, a premium of—3 guineas.

To the person who shall, at the annual meeting for 1808, report the most satisfactory information, as deduced from actual experiments, of the soils and situations best adapted for orchards, and of the means used in their plantation and subsequent management—10 guineas.

For the best cow that shall have produced not less than 3 calves, and shall be in milk at the time of shewing, the time of her last calving being ascertained by the owner—6 guineas.

For the second best ditto—4 guineas.

These premiums not to be given for any animals of mixed breeds, nor unless the particular breed is ascertained to the satisfaction of the judges.

The following conditions are to be complied with by all candidates for premiums.

Every candidate, or person appearing on his behalf, is to enter his stock or claim to a premium with the secretary, on or before the 1st day of September next, the stock to be exhibited at a time and place to be appointed by the committee. A certificate, in the following form, is to be delivered to the secretary at the time of entry:

I, A. B. do certify, that the _____ intended to be produced for the premium offered by the Leicestershire and Rutlandshire Agricultural Society in class _____ is the property of _____

[Here shall follow a statement of such other particulars as may

may be required by the terms of the premium, and for ascertaining the claim of the candidate.]

(Signed)

The secretary is requested not to disclose the entries of claims for premiums until after the 1st day of September, 1808.

All cattle shewn must be previously rendered tractable, in order to prevent accidents.

No candidate to enter more than one lot in the same class.

In every class where doubt shall arise, the committee is to decide.

There shall not be more than three judges for each description of animal, and no person is to act in that capacity in any case in which he may be interested.

Instructions to the judges.—You shall decide which is the best animal, or lot of animals, in the several classes, having a regard, in forming your judgment, to excellence and utility of form, quality of flesh, lightness of offal, propensity to fatten, and early maturity, as far as may be consistent with the special terms of the premium. Also in sheep, to quantity and quality of wool. Having signed your adjudication, you are not afterwards to propose any change, nor to mention your decision till announced by the committee. You are not to disclose the opinion of each other; and the decision of the majority is to be conclusive; and you shall number the lots in each class in the order of their merit.

G. N. NOEL, Chairman.

Mr. Samuel Stone produced a heifer only 2 years and 10 months old, which had reared a calf in 1806, and was sufficiently fat to be worth the best market price of the day. Also, another heifer, 4 years and a half old, which had had four calves.

Mr. Stone proposed to the committee to go on with experiments respecting these animals, and promised to communicate the result, at a future time, to the Agricultural Society.

Mr. Watkinson produced a cow of 8 years old which had reared 6 calves.

The above named animals had very considerable merit in the opinion of the meeting, but, on account of informality in the notices of intention to shew them, could not be entitled to the premiums of the Society.

Clement Winstanley, Esq. V. P. exhibited a handsome cow, but which was not offered for any premium.

Several pens of sheep were also produced, but on account of irregularity, no premiums were adjudged.

A claim from Colonel Crump was received for the premium offered for clearing land from ant-hills.

Edwyn Burnsby, Esq. produced a drill machine, made by Mr. Hicks, of Leicester.

By order,

R. COOKE, Sec.

GLOSSARY

of

or

AGRICULTURAL PROVINCIALISMS.

AS an occasional visitor has little opportunity of picking up these, not having sufficient colloquial intercourse with the lower classes, by whom they are used, I have collected the most remarkable of those noticed by Mr. Marshall, who resided in this neighbourhood two years, but have altered some of the definitions:—

A.

Acre, a long measure of 4 roods or 32 yards.

Aigles, icicles.

B.

Batch, the corn sent to a mill for family use.

Batch bag, the bag containing it.

Batten or bolting, a truss of straw.

Beggars needle, a weed, shepherds needle.

To belt or burl, to shear the buttocks of sheep.

Beltings or burlings, wool so shorn.

Boar thistle, spear thistle, *carduus lanceolatus*.

Brush crop, crop sown on a stubble.

Butty, partner in a small concern.

Byslings or beastings, a cows first milk after calving.

C.

Chadlock or kedlock, wild mustard, radish or rape.

Camp or hogg, a hoard of potatoes, &c.

Caps

362 AGRICULTURAL PROVINCIALISMS.

- Caps or hackler's, hood sheaves of corn shocks.
 Chapmanry, a small return on receiving money for beasts
 or corn.
 Clam or clammed, starved by hunger.
 Cleries, draft iron of a plough.
 Cockheads, a weed, knapweed, also plaintain heads.
 Crow-flower, crow-foot, ranunculus.
 Corned, fed with grain.
 Cullings, refuse, out-casts of a flock.

D.

- Daglocks, beltings or borlings of wool.
 Dee hettle, a weed, nettle hemp, or lamicoms.
 Dog fennel, a weed, corn, camomile.
 Donk, damp.

E.

- Eavins, eaves of thatched buildings.
 Elder, the udder of a cow.

F.

- Feeders, fattening cattle.
 Fegg, rough dead grass.
 To fettle, to adjust, or put in order.
 Fin, a plant, ononis, rest harrow.
 Finch backed, white backed, or streaked cattle.
 Fitchet, a pole cat.

G.

- Galls, moist springy places on land.
 Garner, a bin in a granary, or mill.
 Gaun, a gallon measure, also a small pail or tub.
 Gearing, the harness of a horse, or ladder, and side rails of
 a carriage in harvest.
 Gorse, furze or whin, *ulex Europæus*.
 Gurgeons, pollard, or a sort of bran.
 Gutter, a small ditch or drain.

Heart

H.

Heart spurn, tap root.

Hengorse, ononis spinosa, thorny rest harrow, to hike, to strike, or gore with the horn.

Hillocks, mole-hills, or ant-hills.

Hooders, covering sheaves, of wheat shocks.

Hubbs, naves or stocks of wheels.

K.

To kibble, to grind corn perfectly.

Kids, faggots.

L.

Lag, a shake in timber.

Lamb hogs, yearling sheep, before shearing.

Lap love, corn bind weed, convolvulus.

Lay for cattle, hired pasture.

Lays, grass or pasture land.

M.

Muck, compost of dung and straw.

N.

Nag, a saddle horse.

P.

Pad, a traced path.

Passer, a nailpasser, a gimblet.

Pin fallow, winter fallow.

Pingle, a small croft.

Piles, awns of barley.

Poothery, close, cloudy, sultry weather.

Q.

Queest, the wood pigeon.

Quart of butter, three pounds.

R.

Raun-piked, dead-branched tree, stag-headed.

Raw weather, wet and cold weather.

Roarer, a restless cow, also a rupture-winded horse.

Rood,

Rood, a customary measure of 8 yards.

Ruck, a heap.

S.

Sarver, a corn scuttle.

Score, twenty in number.

Seedness, seed time.

Shear hog, a wether or ram, yearling sheep after shearing.

Sludge, mire.

Sough, or suff, a covered drain.

Spinney, a clump, or small coppice.

Stail, handle, as fork stail, mop stail.

Stalled, a carriage set fast in a slough.

To stock up, to grub up.

Stodged, filled to the stretch.

Strike, a measure once stricken originally.

Stump, a post.

T.

Tankard turnip, the long-rooted turnip.

To thack, to thatch.

Theave, a yearling ewe after shearing.

Thoan, damp, not thoroughly dry.

Thrave, 24 sheaves or boltings.

Twitch, or squitch, coach grass.

W.

Wall spring, a spring breaking through the surface.

Wastrell, outcast.

Willow weed, *polygonum pezsicaria*.

Welly, almost.

CONCLUSION.

CONCLUSION.

MEANS OF IMPROVEMENT, AND THE MEASURES CALCULATED FOR THAT PURPOSE.

THE improvement of every species of live stock has been already attended to in this county, with a success which proves they have acted upon true principles, and a continuance of which will extend and increase such improvement. If any thing be wanting to make it more general and extensive, it may be the assistance of the landlord or his agent in procuring improved male animals, for the use of the smaller tenantry, charging them interest for the expense of such accommodation.

The improvement and increase of the means and resources for supporting capital live stock has also, in some measure, kept pace with the improvement of such stock. Much has been done in draining and irrigation, and thus improving and increasing the produce of grass land, as well as in the cultivation of green crops, and the introduction of new species or varieties of the best kinds: it remains therefore to extend drainage and watering to all land capable of those improvements, and much remains still to be done in this way. Many pastures are also injured, and
rendered

rendered unsightly by ant-hills; these should be removed, as well as bushes, and other rubbish. The inferior pastures should be permitted to be ploughed up, in order to improve them, and lay them down better. Their improvement would be effected on strong land, thus: 1. Drain where necessary, and plough up for oats; and, in case of tough hassocky turf, pare and burn before ploughing, so far as that extends: 2. After the oats, plough in autumn, and give a complete winter and summer fallow for wheat or barley, with from five to six tons of lime per acre, and plenty of the best seeds sown with the barley, or if wheat amongst the crop in the spring; for lighter lands, after the oats, fallow for a green crop, and lime as before; and, if the ground be not well cleaned and pulverised, repeat a second green crop, and lay down in spring with barley, or spring wheat, with plenty of the best and cleanest seeds. It is necessary to the complete success of the seeds, that the green crops preceding them should be eaten off in time, so as to admit of the land being well pulverised by two ploughings, for grass seeds sown amongst clods will not succeed so as to form the best pasture. Plenty of white clover should be sown, eight or ten pounds of the seed per acre, if permanent pasture is intended, and on the proper soil a peck or more of burnet should be added. This plant is adapted only to dry calcareous soils, where it will be perennial and productive: on moist or strong loams it is improper, and the best natural grasses are to be preferred: and here I cannot but express a wish, that the respectable Agricultural Society already formed, would encourage the growth of the best native and perennial grasses, and other plants, by offering and continuing a premium for the best cultivated herbage for mowing, of the first year, sown with barley, or in some other crop of grain; and the principal

principal staple of which shall not be red clover and ray grass, but some other perennial herbage fit for pasture, or mowing annually, and not being less than five acres, suppose ten guineas; and for the second best, and not being less than three acres, suppose five guineas. By an encouragement of this nature, perhaps something may be brought forward to improve the grass land, even of the county of Leicester: the crops to be viewed at Midsummer by proper judges appointed by the Society.

If any fault is to be found with the general system of Leicestershire agriculture, it is with the scanty breadth of land sown with wheat; but this cannot well be increased from the other cultivated lands, without lessening the quantity of live stock. The oats, beans, and vetches grown are all consumed by the horses, necessary to keep up a breeding stock, and do the agricultural and other business. Fallows are as nearly abolished as they can be expected to be, and the number of sheep and cattle kept cannot be lessened, without the ill effect of such a measure being severely felt, in the populous neighbourhood and in the metropolis. The cultivation of Charnwood would probably for many years, add 1000 acres per annum, to the breadth of wheat grown in the county.

And here I cannot but again repeat, that the destruction of weeds with flying seeds, growing in hedges, highways, and on heaps of compost, as well as in cultivated land, would be a means of general improvement, and that the foulness of the beans and other crops, is in some measure owing to this neglect; and that if this object be neglected by the occupier, it is worthy the interference of the landlord or his agent, if not of the police, as a means to improve the country.

As an abstract of the whole, and to delineate the idea I have

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I have formed of Leicestershire agriculture, cultivation, and stock kept, I will suppose an ideal farm, containing a two-thousandth part of the extent of the county, stocked and conducted upon the general average system of Leicestershire management, as now in practice in the county. Such a farm would contain, within fractions, nearly as follows:—

	Acres.
Acres in the gross	261
Waste land and woodland	21
Cultivated land	240
Strong clay loam at grass	40
Milder loam, permanent pasture and meadow	80
Clover, or temporary pasture	40
Total grass land	160
Tillage, Wheat 12, barley 20, oats 15	47
Beans 6, pease and vetches 4	10
Green crops, including potatoes	20
Fallows for wheat and barley	3
Total as before	240
Live Stock.—Dairy Cows	8
Fat cattle annually bred on the farm	4
Bought in and fatted annually	12
Occupying, young stock included, grass land	65
green crops	10
	75
Sheep.	

MEANS OF IMPROVEMENT, &c. 369

	Sheep, No.	
<i>Sheep</i> .—Breeding ewes - - -	100	
Lambs 120, shear-hogs, rams and theaves 120 - - -	240	
	Acres.	
Of these shorn 220, lambs not shorn 120 - - -	340	
Occupying grass land 65, green crops 10 -	75	
<i>Horses</i> .—8 working horses and mares, 2 yearling colts, 2 do. two-year old, 1 hackney, 1 mis- cellaneous, in all 14, occupying grass land -	30	Acres.
Oats 15, beans 6, vetches 2 -	23	} 53
Remains for mankind and other uses, for hogs, &c. Wheat and barley 32, pease 2, fallow 3	37	
Total -	240	

The cultivation of this farm would require 12 persons, and their families might consist of 12 more, in all 24 persons, employed, or maintained, and supported by employment, on 240 acres of cultivated land, which is one person to every ten acres. This is the proportion returned from Leicestershire, under the Population Act, nearly.

These 24 persons might consist of the master, mistress, and two children, three men and 3 maid servants, four labourers, or agricultural mechanics, with their wives, and six children, or the number made up by different variations.

The annual marketable produce from such a farm, after the families employed upon it are provided for, may be thus estimated :

LEICESTER.] * b Produce

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Produce of 5 acres of wheat, 125 bushels, at 9s. 3d. per bushel	L.	s.	D.
	57	16	3
Do. of barley, after providing for seed, malt, and hogs, 50 quarter at 2l. - - -	100	0	0
All other crops consumed on the premises.			
<i>Cattle.</i> —Produce of 8 dairy cows at 14l. 10s. - -	116	0	0
Do. of 4 bred and fatted on the premises, at 21l. - -	84	0	0
Profit of 12 bought in and fatted, 8l. each - -	96	0	0
	<hr/>	296	0 0
<i>Sheep.</i> —60 Sheer hogs, annually sold at 3l. . £ 180	0	0	0
60 Ewes and theaves at 2l. 5s. . -	135	0	0
220 Fleeces, 55 tod, at 1s. 8d. . -	77	0	0
	<hr/>	392	0 0
Horses, 14 kept in all, 2 annually sold, barring accidents, at 25 guineas each . .	52	10	0
	<hr/>	£ 898	6 3
	<hr/>		

As part of the produce of hogs was reckoned in the dairy, the rest must be allowed to fill up deficiencies, and the articles of sale from this farm may be put annually at 900l. after supplying bread and beer for those employed and their families.

Butcher's meat for 24 persons, at half-a-pound each per day, 6d. per pound, for one year,	L.	s.	D.
amounts to . .	109	10	0

Wages for one year to servants and workmen, besides board, &c.	L.	s.	D.
	100	0	0
Grocery and clothing for the family, and travelling expenses	100	0	0
Poor's Rate, Malt Tax, Assessed, and all other taxes	100	0	0
Interest of 2,000l. capital to stock such a farm	100	0	0
<hr/>			
Outgoings	509	10	0
<hr/>			
Remains for rent, tithes, extra expenses, losses, and profit per annum	390	0	0
<hr/>			

As many things respecting the general features, or particular practices of a country may occur, which are not reducible to any general or particular head, in a systematic plan, I shall sketch out a short itinerary, composed of minutes *made upon various excursions through different parts of the county.*

August 25. Enter Leicestershire from Tamworth and Polesworth; sandy bottom, barley carrying, the chadlock amongst turnips here, not wild mustard, but rape or radish: pass Warton, soil stronger, barley growing but ripe, field beans turning colour; a stone quarry at work; wild teasel and elecampane in hedges; also in ditto and road sides goose tansy, ragwort, ononis spinosa, woody night shade, thistles with the seeds flying; lime mixed in compost, barley mowing, oats carried, some turnips, and some wheat fallow; wheat part carried, a brick kiln: pass Orton on the hill, barley and wheat harvesting, some wheat fallows and lime used; stubbles ploughing, beans short (and foul with corn camomile), and nearly ripe, road-side plants, daucus, agrimony, vervain; cross a rivulet, soil clay loam, rushy,

large proportion pasture; wheat crop bad, eight or ten bushel per acre; soil thin, poor, harsh, moist, thistly, and badly managed, wheat fallow and lime, two-furrow ploughs drawn by five and six horses: oat stubble ploughing, flax in small plots, pastures foul with docks and thistles uncut; thistle and sow-thistle seeds flying; agrimony, St. John's wort, wood betony and teasel, growing on road sides. In this course of country is a good deal of poor, cold, thin, harsh clay loam. The county has scarcely a worse district. Turnips indifferent, potatoes good, pea crop poor and foul, beans and peas intermixed, dairy cows long horn; pass a modern enclosure, with two rows of double post and rail, and the quicksets between; soil harsh clay loam, most thrown to pasture, but some fallows and wheat; reapers at work.

Pass Welsborough; high sound land most at grass, but some poor weedy beans; barley better, but not ripe; wheat cut, crops foul, thistles and sow thistles with the seed flying; more fallow, heaps of dung and compost neglected; grown full of thistles, lakeweed, and goosefoot, which are fast ripening their seeds; pass the Ashby canal, a coal wharf, to Bosworth.

Bosworth to Hinckley.—Across Sir Wolstan Dixie's park, well stocked with deer, sheep, cattle and horses; towards Hinckley, turnips late sown; potatoes and wheat good crops; wheat reaping, oats carrying, turnips grown, but a large proportion of the land at grass: pass Cadeby, some fruit orchards, oats harvesting loose, crop good, more turnips clean hoed and promising; soil sound and good; barley growing and good, some cut and carrying, but some cool spots will grow a week, or a fortnight longer; turnips, potatoes, and Swedes promising; early stubble ploughing, for turnips, coleseed and rye, with a two-furrow plough and five horses.

Plots

Plots of cabbages common in turnip fields, both six-inch and narrow-wheel waggons, fitted up with harvest gearing, a seven-tined four-wheeled schuffler, in a ploughed field, near Hinckley.

General remark :--From Bosworth to Hinckley I passed several sets of dairy cows, of from 12 to 24 each; the soil generally a good sound loam, in good condition, with a large proportion at grass; but on road sides, in this day's tour, on both sides Bosworth, the thistles are most shamefully neglected; the ditch scorings, meant for manure, are often left to bear a most luxuriant crop, of both the common and spear thistle; and, what is worse, these are suffered to seed, and the seeds to spread over the country, and that often times against fertile and well-managed land. Dung-hills (i. e.) heaps of muck and compost laid down on road sides, are often equally neglected, and suffered to produce goosefoot, lakeweed, and thistles in perfection, ripening their seeds by thousands, and mixing with the manure, to rob the land, as fast as the manure can fertilize it; if this manure was turned over when the weeds were in blossom, it would enrich the compost; but there can scarcely be a greater neglect than suffering them to ripen their seeds.

To this I must add the foul state of many pastures, and much more excellent pasture land, where the dock and the thistle is suffered to triumph over every pasture plant without hinderance or molestation; they are suffered to flourish, and ripen their seeds, and shed them on the land, or to be dispersed over the country in every direction by the wind.

26th. *Hinckley to Lutterworth*.—Kitchen garden ground, and a cherry orchard near Hinckley; thistles and docks with ripe seeds at intervals, but not so common as

yesterday; some small closes of cabbages, and plots of the same in turnip fields, plough-hoed.

Pass Burbach, thistles flying at intervals from road sides, but have been mown in pastures; turnips look kindly, but half the country hereabouts permanent grass land; farther on, thistles, both the common and spear thistle, in such a state, that nothing but immediate combustion could destroy them, the feathered seeds rolling on the ground, or shedding or flying. They should always be mown, or rooted up in July. When harvest commences, leisure is wanting, and the seed soon ripens and flies; an oat stubble sown with rye, and up two or three inches high; turnip sown with the rye: some good turnip crops and Swedish; heaps of muck again; full of weeds seeding; the polygonum convolvulus, in addition to former kinds; near Lutterworth more potatoes, and kitchen garden ground.

To Harborough little variation from before, but oats the principal, and rather the favourite crop; henbane and figwort; road sides some extensive plantations, thistles flying, ragwort growing: pass Walthorpe, a thatched village with mud walls; stubbles sown for sheep pasture; wheat, barley, oats, beans, turnips, and Swedes grown; two or more of these often in the same field; beans short and poor, and foul, with sow thistles, both white and yellow blossomed, with the seeds flying.

Beans continue short and poor, as well as foul with sow thistles, and corn camomile, road-side weeds, ononis spinosa, yarrow, ragwort, and centaurea nigra; wheat and beans again in the same field; pastures thistly, but have been mown, some with ant-hills, more free from thistles, but often rushy and unsightly with nettles and burdocks; more old pasture cleaner kept, and a good many feeding cattle;

cattle ; pass North Kibworth ; hedges here plashed at full length, eight or nine feet long, as fence against the feeding bullocks, and other cattle ; mud walls and thatch in the village ; nettles, docks, and other weeds, on heaps of compost : pass Husband's Bosworth ; stone crop on thatch, and English mercury on road sides.

A field of good beans broad cast, another of wheat, and a third of turnips ; but little tillage in sight : pass Thedingworth ; mud walls, thatch and stone crop, but some houses of better materials ; a large grazing piece of old turf, with from 30 to 40 oxen, mostly Hereford's, besides a good many sheep ; Marston common field to the right, but this in Northamptonshire ; pass Lubenham ; some mud walls, cabbages, barley, and clover for seed all in the same field ; oats reaped and bound ; wheat stubbles mown for carrying off ; oat and other stubbles ; ploughing for turnips, coleseed, rye and vetches : enter Harborough.

27th. *Towards Kegworth and Leicester.*—Little tillage, much grass land ; Union canal extending to Harborough, crossing the road in two places ; heavy black oxen, grazing 36 to 40 near together, but in different pastures ; a piece of beans mown, foul with sow thistles, otherwise rather a full crop ; pastures and road sides cleaner from weeds than former days, but some at intervals, both docks and thistles, round roads ; barley and Swedish turnips in the same piece, half and half ; different sorts of grain, often in the same piece, generally sown on turf, and turnips to succeed ; a good deal of old pasture land, and a few ant hills ; enter Leicester.

In Leicester, front land, in a medium situation for building is worth 4s. per square yard.

Harborough towards Hallaton.—Over upland, mostly pasture, with a few fields of barley and turnips ; country inclosed, mud walls and thatched cottages in villages ; many brick houses thatched ; some loose stone fences, but mostly

hawthorn quick; a few dairy cows, both long and short horn, but more fattening cattle of different sorts; soil a gray loam, lighter and stronger at intervals, but generally deep and good; many sheep grazing, and some young cattle.

Gates here made of alder and willow-pole wood, few of oak; later enclosed land, with some beans, and a larger proportion of tillage; a considerable tract of flat meadow land, some mowing land, and a good many bullocks feeding, white clover plentifully spontaneous.

A considerable number of bullocks feeding, both Yorkshire and long horn, and a few dairy cows: enter Welham; mud walls and thatch; towards Hallaton, many Welch, Scotch, and other bullocks, feeding as well as sheep, and but little tillage.

Hallaton is a large village, with some pretty good houses; country enclosed; soil a sound, rich, gray loam, almost wholly at pasture; a lime-kiln and a brick-kiln; lime burning with coal, but the stone not raised on the spot; a small waste sheep-walk in sight on the right; cow dung burnt in this neighbourhood.

Towards Norton, newer enclosed land, and more in tillage; crops oats, wheat, barley, beans and pease mixed, also both wheat fallow and turnips; soil strong and wet, and has been very much trodden by stock; a bullock is said to have five mouths upon these occasions, as he treads with each foot a good deal more than he eats. The bullocks here Scotch and Welch; also some good steers and young heifer stock.

Enter the Uppingham road at Norton, and proceed towards Leicester; much pasture and little tillage; soil gray loam; some wheat and wheat fallow; pasture land, infested with ant-hills in some places, in others with rushes, from want of drainage; the yellow bedstraw (*galium verum*) abounds much in some grass land; little variation to Billesden; a
very

very large proportion of this tract of country at grass, I believe at least three-fourths of the whole; little dairying; the produce mostly applied to fattening cattle and sheep, and the support of horses; some few handsome farm houses east of Leicester, but in the east and south of the county many more crowded in villages.

Leicester towards Hinckley, half way.—Furze preserved, I suppose as a cover for game and for fuel; docks innumerable in pastures; good long horn dairy cows; soil a deep, sound, gray loam, sub-soil often gravel or grit rock; some corn crops, and much pasture and mow land; pastures overrun with docks and thistles. Pass a considerable wood, well stocked with growing oak; some good, and some indifferent wheat and barley crops; rushes on the high-way side; land wants draining; beans and patches of potatoes; crops of grain and some turnip ground; a wheel plough going with two horses; a pretty good fruit orchard; a great crop of barley by the road side; lime used for manure; turnips grown, and a larger proportion of land in tillage; long-horn cows, calves and young stock, as well as sheep; many oats grown; town manure unloading from waggons in different places, and heaps of the same by the road side; some farm-houses in the fields, clay bottom, and bricks made.

Pass Shilton; many farm-houses in the village; thatched cottages, and mud-walls to court-yards; soil now light sandy loam; potatoes near the village, then turnips; other crops, barley, wheat, clover, and pasture; more potatoes and pease podding, for the market; the corn marigold abounds in some places, also the corn crow-foot very abundant in a wheat crop.

Leicester towards Loughborough, August. Excellent meadows on Soare, and good pasture; barley carrying, and turnips hoeing, in which are some bare places, but the

the earlier sown the best, part Swedish; soil light loam on gravel. Pass Belgrave and the navigable Soar, some good meadows, others rough with rushes; pass an elegant mansion, with green houses and plantations; cabbages cultivated in the young plantations, (a good cleaning system) and I believe kindly to the plantations; more turnips and Swedes and cabbages, sometimes all three in the same field, and very often two of the sorts; a barley-piece very full of the corn marigold, two well dressed women turning barley; Swedish turnips good, more frequent here than English, in the proportion of two or three to one. Pass Rothley, wheat and barley cut, turnips and cabbages grown, beans mowing.

Mountsorrel.—Near Mountsorrel, some oats and other crops poor and foul; towards Leicester better cultivated grass land prevalent; near the road good Swedish turnips, and the seeds of thistles flying shamefully.

Across Charnwood and to Ashby; canal here dry and out of use, and the Cole-orton colliery standing still at present. For more particulars of Charnwood—SEE CHAP. XI. WASTES.

October 5. Enter Leicestershire at Shardlon; rich meadow and pasture land in the vale of Trent; Castle Donnington enclosed 1778, 2438 acres; all the flat land leaning to the Trent, at grass, and rather a small proportion of the rest in tillage; the soil a moderately light loam, fit for turnip, but turfs well; an under stratum of rock or free stone, adapted and used for building.

To the Earl of Moira's—SEE BUILDINGS, OCCUPATIONS, &c. thence to Ashby, the country enclosed, except the small common fields of Walton; Worthington lately enclosed; in several places observed poor women gathering haws for the nursery men at 9d. per bushel, for raising quicksets for fences.

Particulars

Particulars of information collected in this district, of the county, detailed under the different heads of this survey. For Ashby Woulds—SEE WASTE LANDS, ENCLOSURES, &c.

October. Cross-road from Scraftoft towards Melton, much pasture; some large closes stocked with sheep and bullocks; a few long horn cattle bred, and many Scotch and Welch bought in; soil, a deep moist gray loam; farm-houses wholly in villages, where manufactures have not made their way; the population is very thin in this grazing district. Old pastures with ant-hills, and Scotch and Welch bullocks grazing.

Some bean stubbles, but principally turf to Barkby-thorpe, where is a cherry orchard, and stocking looms. Towards Melton; soil deep and rich, most at pasture, and has been long in an improved state; sheep large and good; little or no green crops raised here for wintering them, but dependant almost wholly on grass land, around Melton, for some miles, particularly to the west, very little tillage, and few inhabitants, the land occupied in large sheep farms.

19th. Take the Grantham road to Waltham; land strong and cool; pastures much infested with goose tansy, strong clay, and road much cut, but repairing with limestone; oat stubble ploughing for wheat; bean-stubbles; and some not harvested; little fallow or turnip ground; land cold and indifferent. Pass Waltham; land sounder and better, and turnips grown; soil now a sound gray loam on limestone; on the Braunstone road grows naturally the upland burnet (*poterium sanguisorba*) and the bird's foot, (or *nithopus perpusilus*), several acres of furze, preserved near Croxton park, as a cover for game and for fuel; sheep large and good, but fuller of bone; common weeds; ragwort, and corn marigold. Pass Braunstone; wheat stubbles

bles all mown with a scythe, for thatch or litter; new enclosures of deep loam, brown or snuff-coloured, and of considerable extent: at Stathern, hops in hedges, and sedums on roofs and walls; buildings mostly thatched; a good many fruit trees of different sorts; soil a deep gray loam; roads heavy, but good turf pastures.

A good many fruit trees in most of the villages in the vale of Belvoir; but the roads horrible in winter; drainage much wanted, but some going on; Elkington's system adopted, and the mole plough has been used with partial success. Mr. King furnished me with a guide in the duke's farm bailiff, through this district.

The Grantham canal is a leading feature of this vale, as it passes almost the whole length of it, and 9 or 10 miles over the Duke of Rutland's estates, who is a large proprietor. It is navigable for Trent barges from Nottingham to Grantham—SEE CANALS. I heard a farmer say he would not take 50*l.* per annum for the convenience it affords. The soil of this vale is generally a deep gray, but sometimes a brown or snuff-coloured loam; roads deep, heavy, and much cut, very bad in wet weather; the greater part at grass; though there are some bean and wheat stubbles, and a little oats and barley grown; some wheat and some barley fallows, and a good deal of hay grown; a good many dairies kept, and the cows mostly, but not all, short horn; a great many sheep kept of the strong heavy sort; various sorts of fruit trees, and most of the farm houses and offices wholly in villages.

Nether Broughton to Rearsby; much pasture land, and the country generally very thin of inhabitants; seven miles of road here, with scarcely a house near it, and very few opportunities of obtaining information, except from guide posts.

From Belvoir through Eaton and Eastwell to Melton,
several

several miles over the reddish soil, which Mr. King reckons the best arable land in that part of the country; wheat sowing on lays, and on oat stubbles; turnips, and some Swedish, but much the greater proportion of the land sheep pasture: examined the understratum in several stone-pits, they are firstly loose reddish grit stone, but encompassing calcareous matter and marine concretions; the upper and intermediate soil sufficiently calcareous; lower down, a more solid gritstone rock, but encrusting calcareous matter, and with open perpendicular fissures; the whole being sufficiently porous to let off the atmospherical moisture, renders it excellent sheep and corn land; the stone is used to repair roads, but wears on the surface into a snuff-coloured loam, which tempers into mud in rainy weather, and is only dry in dry seasons.

The white stone bottoms are more calcareous; some of the stone pure enough for burning into lime, but oftener incrustated with gritty matter; the surface and intermediate soil more tenacious, not suffering the wet to pass freely, and therefore too wet for turnips; cabbages in small spots only.

Melton by Great Dalby, to Burrow on the Hill and Tilton, 10 miles; nineteen parts, in twenty, of the land in sight of the road, is pasture, stocked with sheep in large proportion, and some cattle; the road lies mostly through enclosures, with gates to open. Tilton, a parish, part ancient enclosure, and part common field; the old enclosed part almost wholly old turf; but small plots of common and Swedish turnips, preceded by oats sown on the turf, and succeeded by barley with seeds and pasture, for several years; the common field in the course fallow, wheat, beans, the wheat stubble carrying off, which had been mown; soil a good deep gray loam, capable of producing great crops, even in the common field tillage.

PASS

Pass Church Langton; a large modern enclosure; the soil generally a strong gray loam upon a gravel bottom; has small plots of cabbages, but no turnips; the stubbles and stacks are wheat, beans, barley, and oats, with a good deal at grass, to Market-Harborough.

Leicester, towards Welford. In the villages in this route, gardens and court-yards are often fenced with mud walls, coped with thatch, on which grow the round leaved sedums; many cottages and farm-buildings are walled with the same material; land sound and good; deep gray loam on clay or gravel; some corn grown, but much more pasture; stock good; land sometimes deep brown loam on limestone, at 5 and one-half miles cross the Harborough canal at a coal wharf; several lime-kilns on the canal, stone on the spot, but coal brought from a distance. Many other excursions made in the county, and the minutes made, arranged in different parts of this survey.

BOTANICAL CATALOGUE

Of the principal British plants which may either be used as food for mankind, or are eaten by cattle; many of which may, very probably, be much improved both in bulk and quality, but have not yet been brought into general cultivation.

THE first class of plants that naturally offers itself to notice, is that of *Diadelphia*, from which many good selections have been already made, as the red and white clover, trefoil, and annual vetch; also lucern, which is worthy of more attention than it has yet received, and saintfoin,

for dry hilly situations ; but these have been named before
—SEE THE INDEX.

A good many of this class still remain well worthy of trial : As 1. The perennial vetches (*Vicia's. cracca* & *sylvatica*) common in moist and shady places, meadows and fields ; are eaten by all sorts of cattle, either green or in hay, and being durable, would be a good addition to the herbage of all meadows and pastures.

2. The lathyrus tribe (vetchlings) the seeds of all which, Dr. Withering says, are nutritious, either eaten in broth, or made into bread ; some of them are very beautiful in flower ; the meadow vetchling (*lathyrus pratensis*) is very common in Leicestershire, in hedges, meadows, and pastures, is perennial and productive, and eaten by all sorts of cattle, green or in hay.

3. Of the trifoliums, the seeds of the cow grass, or true perennial red clover, have not, I believe, been yet common in the markets ; (leaves longer and narrower, and blossoms of a deeper colour than the common clover) marl grass of Hudson, (*trifolium medium* & *alpestre* of different botanists, and *trifolium flexuosum* of Withering) the seeds commonly sold have been a variety of the *trifolium pratense* ; if those of a true perennial red clover could be obtained, it would be an acquisition to our pastures which are meant to lay several years.

The hare's foot trefoil (*trifolium arvense*) I have observed to grow on the barrenest and driest sands ; if cattle eat it well, it might be worthy of cultivation on such soils.

The melilot (*trifolium melilotus officinalis*) is of luxuriant growth ; horses are very fond of it, as I have often observed, and I believe all sorts of cattle eat it ; it bears the character of being a corn weed, but is, doubtless, a
good

good pasture plant, as well as in hay, being more fragrant dry than green.

4. The liquorice vetch (*astragalus glycyphyllos*) is of the most luxuriant growth, and eaten by all sorts of cattle, but has, I believe, never yet been cultivated.

5. Kidney vetch, or ladies finger, (*anthyllus vulneraria*). I have often seen this plant grow with vigour upon poor barren soils, and on such think it worthy of cultivation, if not on better land; my horse eat it freely; cows also eat it.

6. Bird's foot trefoil (*lotus corniculatus*) of very general growth in most sorts of land, meadows, pastures, heaths, and road sides, and not liable to lose its verdure in the driest weather; horses and cattle eat, in Hertfordshire; it is cultivated for sheep; (Bot. arr.) I have often wondered its cultivation was not more general; it is strongly recommended by Mr. Anderson; it grows much higher than any of the trefoils, or *medicago lupulina*, and makes extremely good hay.—*Mr. Woodward.*

7. Common bird's foot (*ornithopus perpusillus*) grows on sandy banks, road sides, heaths and pastures; found it on dry banks, in the vale of Belvoir; not subject to be injured by drought, and worthy of cultivation in poor dry land.

8. Yellow medick (*medicago falcata*) in sandy pastures, and about Norwich plentifully; in hot, dry, barren, sandy places, it is well worth the trouble of sowing, for the purpose of making into hay, a practice long since adopted in some parts of Sweden—*Withering.* All kinds of cattle eat it.

9. The sea pea (*pisum maritimum*) deserves more attention, if what be said of it be true, that in 1555, during a time of great scarcity, the people about Orford, in Sussex,

were

were preserved from perishing, by eating the seeds of this plant, which grew there in great abundance (Bot. arr.) upon the sea coast. Supposing this correct, it must be very nutritive and productive; and all sorts of cattle are said to eat it.

10. Wood peaseling, (*orobus sylvaticus*). I have seen this plant in flower and pod, very early in the spring, upon poor cold soils; whence it seems probable, that sown in autumn, it would be a very early spring plant; all sorts of cattle eat it, and it flowers in April and May on poor cold land, but in sheltered situations, being commonly by hedge sides, or in woods, though it may be found in pastures; it is a perennial plant.

Of the grasses, some of the principal have been mentioned before, in Chap. VIII. on GRASS LAND; and recommended for cultivation by name, with a list of others. The following are recommended in addition:

Meadow soft grass, white hay-seeds of Yorkshire (*holcus lanatus*). I have seen a piece of upland now well with the natural produce of this grass, the first year, when the seeds sown have failed; it is fine in the stem, and makes good hay as well as good pasture.

Timothy grass (*phleum pratense*) has been cultivated and is productive, but somewhat coarse; is good in hay and pasture.

Dwarf meadow grass (*poæ annua*) excellent fine and sweet pasture; will sow, and re-produce itself quarterly, if not grazed. Suffolk grass, worthy of being sown in any pasture, if the seeds could be procured; is sometimes troublesome on paths and gravel walks, from shedding its seed, and their tenacity of growth.

Aquatic grasses.—In situations where water could be shed over the land at pleasure, the fescue (*festuca*
LEICESTER.] c c fluitans]

fluitans) would make an excellent rich pasture ; I suppose it might be easily propagated, as its seeds are in abundance. It is to be found in wet ditches, and on the edges of ponds very common. Dr. Withering says, the seeds are small, but very sweet and nourishing ; they are collected in several parts of Germany and Poland, under the name of manna seeds, and are esteemed a delicacy in soups and gruels, on account of their nutritious quality and grateful flavour : geese are very fond of the seeds, and well know where to find them ; many a poor old horse has been bogged in search of this grass, of which they are remarkably fond.

The water hair-grass (*aira aquatica*) would also make a very good addition to the last, in a floc meadow ; it grows in drains and watering places, and on the banks of rivers ; and has the most saccharine taste of any native plant I am acquainted with ; cattle are very fond of it, and it is of fine and kindly appearance, and must be very nutritive.

The reed meadow grass (*poa aquatica*) is an extremely useful grass to sow upon the banks of rivers or brooks, where it often grows naturally. Mr. Curtis informed me that it was cultivated in the Isle of Ely ; all sorts of cattle are extremely fond of it.—*Withering*.

The reed grasses (*arundo phragmites*, & *calamagrostis variegata*) are very productive, and acceptable to horses and cattle in their green state ; they, as well as the preceding, should be mowed, and carried to the stalls or stables. I have known and heard of several instances of large teams of horses doing well with them in summer, and they are equally acceptable to cattle of all sorts.

The rib grass (*plantago lanceolata*) has been often sown with other seeds ; it has been observed, that cattle refuse it alone ;

alone; but I have been informed by an attentive grazier, that the greatest value of this plant is in its seeds, which cattle devour eagerly, and that they are very nutritive.

Meadow burnet (*sanguisorba officinalis*) has never, I believe, been cultivated, but is in great plenty in moist meadows, and in some moist pastures; it makes good hay, and as I have been assured by an attentive friend, preserves the colour of hay it abounds in, of a fine green, and prevents its being discoloured by over heating.

Comfrey (*symphytum officinale*) and English mercury, or wild spinach, (*chenopodium boros Henricus*) have already obtained a place in many gardens, and are a good addition to our esculent herbage; the lamb's lettuce (*valeriana locusta*) very common in the field, is also cultivated as a salad; and the (*cardamine hirsuta*) hairy leaved ladies smock, is worthy of the same attention for the same purpose, and has, I believe, in some places, received it; and Dr. Withering has recommended the pig-nut (*bunium flexuosum*) to attention for the table.

The upland burnet (*poterium sanguisorba*) is a native of the vale of Belvoir, and other calcareous soils in the county. —SEE CHAP. VII.

The chicory (*cichorium intybus*) has been tried here, but is not adhered to; both this plant and the goat's beard, (*tragopogon pratense*) as well as the sow thistles, (*souchus arvensis* & *oleraceus*) are extremely productive, and would yield a deal of food for cattle, hogs, &c. if they were kept mowing, and not allowed to run to seed.

The cow wheat (*melampyrum pratense*) common in many woods and meadows, is recommended as excellent cow herbage, and deserves more investigation; and lastly, the hog weed, or cow parsnip, (*Heracleum sphondylium*)

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is extremely productive; and Dr. Darwin says, cut off near the ground, in the spring, yields from the stump much saccharine juice; a proof of its nutritious quality, it yields an ardent spirit; the leaves are eat by cows, goats, and sheep, and are the favourite food of rabbits and hogs, and the plant is worthy of more attention.

APPENDIX.

THE following hints on Vegetation were drawn up by Sir John Sinclair some years ago, and with his consent is printed by way of Appendix to the corrected Survey of Leicestershire.

HINTS ON VEGETATION,

BY

SIR JOHN SINCLAIR.

THE object of any inquiry into the nature and principles of vegetation, *for practical persons*, must be, to ascertain in what manner those plants, which are necessary for the use of man, can be most easily brought to their greatest degree of perfection. For that purpose, it is essential to know, what particulars are necessary or useful, and what are adverse to vegetation. The former may be considered under the following general heads, namely, Earth or Soil, Air, Water, Light, or Heat,

Manures, or dead organized Matter and Cultivation: The latter may be restricted to two points, to wit, noxious substances in the soil, and vermin.

I.—OF THE CIRCUMSTANCES ESSENTIAL, OR FAVOURABLE, TO VEGETATION.

1. *Earth*.—The necessity of soil, for the growth of plants in general, both for the purpose of holding the plant steady and upright, and also for containing at least some part of the nourishment on which it lives, is sufficiently obvious. Aquatic plants will grow in water, but they have their roots in earth. Marine plants, it is true, grow upon bare rocks, but then it is well known that they are fixed to them; that they live upon sea-water and air, and that the greater part of their substance consist of saline matter. Some authors have contended, that plants are actually nourished by the earth alone. But such an idea is sufficiently refuted by various experiments, and in particular, by the small portion of earth that is found in plants, so very small indeed, that the very water which they imbibe, from the particles of earth which it contains, might produce it.

2. *Air*.—This element seems to be another essential requisite to the growth of plants; and pure air also, is necessary for bringing some of them to perfection. There are many trees (the laurel, for instance) that will not grow in the contaminated air of London, but thrive at four or five miles distance. Many kinds of fruit-trees will not bear good fruit, nearer than three or four miles from that metropolis.

metropolis. In short, pure air seems to be as necessary for the healthiness of plants, as for that of man.

Of late, some respectable philosophers, indeed, have entertained an idea, that atmospheric air, is the sole, or at least, the principal food of plants. Some decisive experiments, in regard to that doctrine, seem to be wanting. Trees which spread their foliage in the air, are not, probably, furnished with leaves for ornament merely. The advantage of fallowing, also, according to some, proves that the earth extracts nourishing substances from the air, when exposed to its influence.

3. *Water*.—That water is of most essential consequence to vegetation, seems to be on all hands acknowledged. Indeed many contend, that it is the sole food of plants. It certainly supplies the materials of the sap, which is the blood of plants, without which they would perish; many instances being known, of trees dying, whose sap was exhausted. The great improvements which are made by the mere watering of land, prove the powerful effects of that element. But it seems more favourable to the growth of grasses than of grain, for though, by irrigation, perpetual crops of grass could be obtained, yet it has been found by experience, that land, if cropt with grain, was completely exhausted, though regularly watered, which could not have been the case if water was the sole food of plants. It is certain, however, that a large proportion of every plant consists of water, and that moisture is probably the vehicle, by which all the food, which the plant receives from the root, is conveyed to it. However beneficial water is, all waters are not equally so. Hard waters are certainly hurtful, particularly to young plants. Mineral waters, as that of Cheltenham, &c. are known, by experience, to be injurious.

4. *Light and Heat*.—Light and heat are, perhaps, not

so necessary for the growth of plants, as essential for their attaining perfection. Plants will grow in the dark, as in mines and cellars, but it is questionable whether they would bring their seeds to perfection in that state. Light is certainly necessary to give them the proper colour. Plants are so fond of light, that they will always bend that way, if put into a dark place, with a hole or window where any light is admitted. Few plants are calculated for cold countries, and those are seldom valuable. Heat is certainly necessary to bring fruits to perfection, and wherever there is the most heat or light, there the plant will have the greatest quantity of saccharine matter. Hence, English barley, of equal weight, is more valuable than the Scotch, producing a greater quantity of malt liquor, or of spirits. Plants which seem dead, from the severity of the season, are revived by warmth of the spring, strengthened by the heat of summer, and acquiring fresh life and vigour, are thus enabled to withstand the rigours of the succeeding winter.

5. *Manures, or dead organized Matter.*—It seems to be a part of the beautiful economy of Nature, that nothing should have lived in vain, and that the destruction of one plant, or animal, should furnish food for another. Hence, however useful earth, air, water, and light are, to the growth of plants, it is questionable whether they could ever come to perfection, without the aid of matter that had been formerly organized. The richest soils, it is well known, are full of dead vegetable manure, and there is no soil that will not produce plants, if a sufficient quantity of dead animal, or vegetable substances are incorporated with it. Under this head is comprehended, all those manures which are found so useful in cultivation, more especially those to which some authors give the name of enriching, or nutritious.

It might here be expected, that some allusions would have been made to those saline substances, on the advantages of which some authors have laid so much weight. But salt does not seem essential to the growth of any species of plants, the marine alone excepted; and there are many productive soils, in which little, if any salt, can be traced. Salt, however, is of use to vegetation, though not essential to it. It may operate upon plants as it does upon the human body, assisting to digest the food, without furnishing nutriment itself. It is also of use in attracting moisture, in destroying vermin in the soil, and in putrifying the roots of any plants it first meets with, thus furnishing nourishment to the succeeding ones.

6. *Cultivation* —The culture of the earth is essentially necessary for the growth of plants to perfection. By dividing the particles of the soil, the roots can more easily penetrate it, and they can more readily suck in the nourishment which it contains. By proper culture also, weeds or useless plants, are extirpated, whilst stirring the earth admits more air and moisture to those which have been sown. Young trees certainly thrive much better, if the soil in which they are planted has been previously ploughed so deep, as readily to admit their roots and suckers. Even after they are planted, it is supposed to be of great service, to cultivate potatoes and other roots among the young plantations.

II.—OF THE IMPEDIMENTS TO VEGETATION.

THE principal obstacles to vegetation seem to be, noxious substances in the soil, and vermin.

1. *Noxious Substances in the Soil.*—There are certainly many

many substance in the soil, noxious to vegetation, in particular, those of a metallic nature. Where mines of iron, lead, or copper, are near the surface, no plants will grow to perfection, which is well known to be the case at the lead hills in Scotland, &c. *Schistus*, in which generally there is a great deal of iron and allum, is so unfavourable to vegetation, that any considerable quantity of it would destroy the fertility of the richest soil. Fallowing, or exposure to the air, and the use of lime, will, it is supposed, correct the noxious qualities of those substances.

There is also an astringency or acidity in peat, so noxious to vegetation, that until any quality of that nature is subdued, though that species of soil is a mass of vegetable matter, yet nothing but heath and other miserable plants will grow in it.

2. *Vermin*.—Plants are also much injured by the various sorts of vermin with which both the earth and the air abound. Those which inhabit the earth, might certainly be easily destroyed by salts or acids. In regard to the myriads of insects with which the air abounds, it is more difficult to point out a remedy. It is said, that in some parts of the Continent, they surround their gardens with a broad row, or belt, of hemp, the smell of which is particularly noxious to insects. Sometimes vermin are occasioned by the weakness of the plant, and the poverty of the soil in which it grows. This is supposed to have been the case in regard to the celebrated Hessian Fly of America, which originated from bad culture during the war, in consequence of which the wheat became stunted and diseased. It vanished with good cultivation; and indeed it is asserted, that fields, properly manured, were never affected by it, though in the immediate neighbourhood of those which were.

W. Mansford's Implements &c.

N^o 1.



N^o 2.



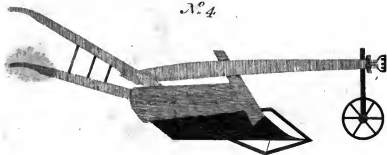
N^o 3.





Mr. Hanford's Implements &c.

N^o 4



N^o 5.



N^o 6.



MR. HANFORD AND Co's IMPLEMENTS, 1808.

No 1. A single furrow plough, for a pair of horses abreast, or for two or more at length as required, with two wheels; this will go without holding; the mould board is cast iron, with a steel rest, and will wear for years without repairing; it may be used by hand without wheels, or with one wheel only.

No. 2. A one furrow plough with a skim coulter, to pare off the turf, or rubbish, and lay it underneath the furrow.

No. 3. A strong plough with a stay to the coulter, to plough up gorsy, or rough, or hard land; one or two wheels may be used; it is very useful on rooty balks by hedge sides.

No. 4. A trench plough, for cutting drains in wet land, will save a vast expense in hand trenching; it cuts a trench from three to seven inches deep, and from four to ten inches wide, and turns the furrow six inches off from the trench.

No. 5. A trench plough for skimming off turf, and the hind plough covering it, making deeper soil, and clean surface.

No. 6. Horse-hoe plough, for earthing up cabbages, potatoes, or any crop in rows; the mould boards may be taken off, and the steel hoe plates put on instead, to cut up weeds only, and leave them to wither without earthing the rows; it will work at different breadths, as may be required.

Harrows.—A, a pair of light harrows for one horse, for seeds, turnips, &c.

B, C,

B, C, sets of pulverizing harrows, which may be worked either by drawing double, or single, upon the land; or by drawing in the furrows only, if the land be wet, and the season difficult; one set serves for either way, by changing the swingle tree only; the tines take every one a fresh track at about one inch and a half asunder, which makes fine and equal work.

E, a pair of strong harrows, which may be drawn either by drawing double or single, upon the same principle.

Schufflers, rakes, &c.—No. 7. Improved schuffler, will work nine or fewer tines, or teeth, as may be required, according to the state of the land for rubbish, as the teeth are moveable up or down, or may be taken out in part, according to circumstances.

No. 8. Twitch rake, to gather up rubbish after the schuffler or harrows for burning, which it does with great expedition, making clean work, and doing a deal in a day.

No. 9. A horse-hoc, or schuffler, in which three, five, or seven hoes may be worked, cutting a width of from 16 to 36 inches, betwixt rows of beans or other crop, to loosen the soil or destroy weeds.

No. 10. Light one-horse car; the rails are applied for top loading.

No. 11. Large rake with elastic steel teeth, which will bend and give way, without ever breaking.

No. 12. Implement for slaughtering cattle.

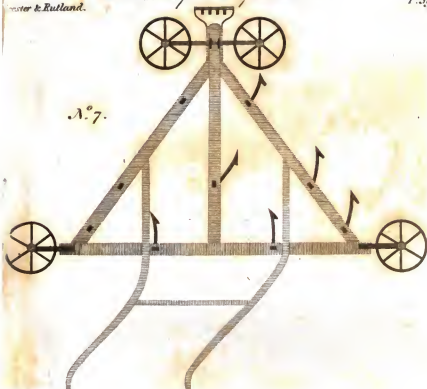
No. 13. Rake with a joint in the middle, for uneven land, or for narrow ridges.

No. 14. The double hand rake, which pulverizes the soil much better and quicker than the single one.

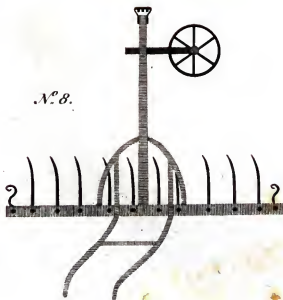
No. 15. The hoe, with a fork to take up hassocks of grass.

Capital

N^o 7.



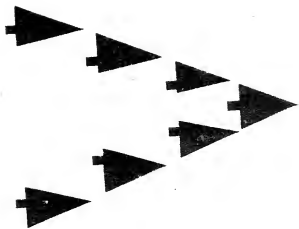
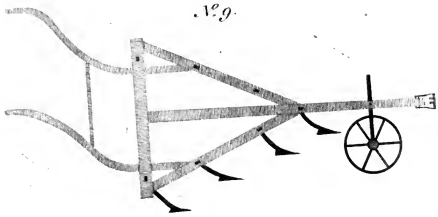
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Leicester & Rutland.

Mr. Stanford's Implements &c

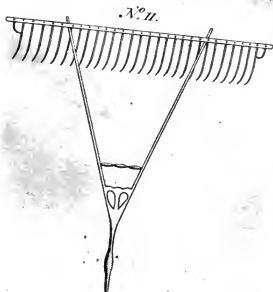
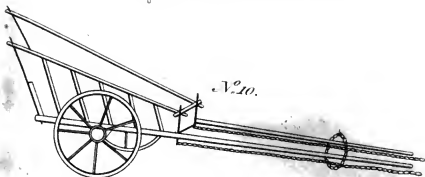
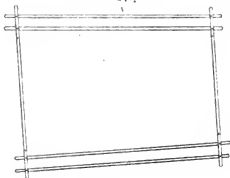
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Leicester & Rutland.

W. Hargreaves' Elements &c.
N^o 10.

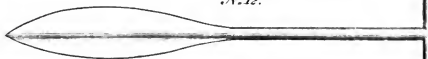




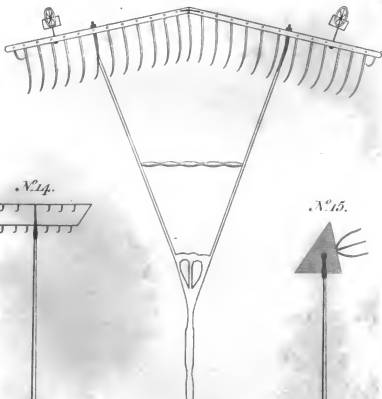
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W. Hanford's Implements &c.

N^o 12.



N^o 13.



N^o 14.



N^o 15.





Capital and improved Implements of Husbandry, respectfully submitted to Noblemen, Gentlemen, and Farmers, in every part of the Kingdom.—Joseph Hanford and William Davenport, Ploughwrights, at Hathern, near Loughborough, Leicestershire.

MAKE ploughs suitable to every kind of land, and all kind of implements used in husbandry; many of them entirely new and improved, and all of them of the very best construction.

In the construction of ploughs, they have at this time made great improvements upon the cast iron mould boards, superior to any yet made, as they will not clog upon clay land, and will last, in full work, for a number of years. They are readily put to new wood-work, and made in such a form as to turn perfectly clean, and to lessen the friction in the greatest degree possible. The rest and shelboard are of cast iron and all in one piece, which adds to the strength, and the whole is not so liable as wood to break. They may be put to any sort of single ploughs, and will be a great advantage to people who have very sandy and gravelly land, which wears out iron plates so fast. The bottom is steel screwed on, which can be taken off and repaired at leisure, if needful; this plan will save that common expense and difficulty.

Skim ploughs may be put to them to skim off the turf or weeds, which will make the land much deeper of soil, and lighter for cabbages and carrots, and much cleaner on the surface for grain or seeds, as the rubbish is all under furrow.

Ploughs

Ploughs of various other sorts.

Common Dutch ploughs.

One wheel ditto.

Two wheel Dutch ploughs.

Two furrow ditto.

Trench ploughs, to plough two depths at the same time.

Hoeing ploughs, to mould up cabbages, potatoes, &c.

Small ploughs for one horse, with moving mould boards, to mould up beans, potatoes, turnips, &c.

Top draining ploughs, the best offered to the public.

Machines of different sorts, for cutting turnips; much improved and of the best quality.

Steel spring tooth rakes, for hay and corn, superior to any yet offered to the public.

Twitch rakes, to work with one horse.

Scufflers of various kinds:—These implements are found of great utility for cleaning fallows and other tilts; saves a considerable expense in ploughing. This machine is so calculated to work the land in any state, as it can be altered in the foulest state without clogging, which in general these implements are subject to. It is also so contrived as to increase or decrease the hoes according to the situation of the land, which render it superior to any. We have made it our study for upwards of twenty years, and have paid great attention to both the theoretical and practical part of making different kinds of implements and working the same, therefore we flatter ourselves that we have made more improvements in them than any in this part of the kingdom; and return our sincere thanks to the noblemen, gentlemen, and farmers, who have favoured us with very extensive orders from most parts of England, Scotland, Ireland, and America.

Several

Several have attempted to make different sorts of implements by our models, but for want of having proper ideas of the trade, it has been very injurious to the public, in putting them to expense, and having things that are nearly useless; therefore, if any of our articles we recommend, are not approved of, we will take them on return. If gentlemen with their orders will inform us of the nature of the soil they intend to work them on, they will have their implements made suitable to the land.

Pulverizing harrows, very capital of the kind:—These are made on such a construction as to perfectly cross tine, and as every tine takes a fresh direction, which pulverizes the land as much at once going over as the common harrows do at two or three times, and renders them much better for hilling corn and seeds, as seven times will work up ten inches wide; and when the harrow has gone over the ground, it makes forty-eight tracks at an inch and half distance, which is nearly as fine as a garden-rake works, and it is remarkably thin of tines, so as any dung or rubbish will push through without much clogging, which many harrows are subject to.

We have made a considerable improvement in working three harrows with two horses, to work ten feet wide the couplings, in so simple a manner that they can be taken asunder in one minute, and make a pair of seed harrows for one horse. They will work ten feet lands without trampling on the land, for each horse to go down the furrows; or twenty feet lands may be worked with only one horse down the ridge of the land, and the other horse in the furrow. The couplings of these will rise and fall as the land varies, and not ride on each other, or liable to turn over, and will turn on the smallest headland. This plan will

will be very useful in wet seasons, or with a pair of horses double in the common way of harrowing. The method of drawing these pulverizing harrows, to work the horses ten feet asunder, and not one horse to go faster than the other, will be managed nearly as easy as the common way of drawing horses double, and will be pointed out to those gentlemen who honour us with their commands. The harrows may be worked three or four different ways, which renders them very useful at a small expense.

All kinds of implements of husbandry may be had at the shortest notice, of the best materials, and on the most reasonable terms.

Ready money will be expected from distant correspondents.

Persons having iron-work belonging to old ploughs, harrows, &c. by sending it, may have it put to new wood-work, which will save a considerable expense.

Implements may be sent to almost any part of the world, by land or water.

Implements may be sent to the following Places:

Angel Inn, Loughborough; Bell Inn, Market Street; Green Man Inn, St. Albans; Dolphin Inn, Huntingdon; Queen's Head, Mansfield; Old Angel, Chesterfield; Bull Inn, Ashborne; Crown Yard, Coventry; Wool Pack, Warwick; Mr. Clarke, smith, Oakham; White Horse, Leicester; Rodney Inn, Northampton; Talbot Inn, Stamford; Black Horse Inn, Cambridge; Talbot, Nottingham; Red Lion, Derby; Castle, Tamworth; Plough, Hinkley; Horse Shoes, Melton; George, Grantham; Coach and
Horses

Horses Inn, Kibworth; Talbot Inn, Market Harborough; White Horse, Cripplegate, London; Waggon and Horses Inn, Sheffield; Old Bear, Burton-upon-Trent; Bridge-water's Arms, Manchester; Public Wharf, Birmingham; Bull Head, Market Bosworth; Horse and Groom, Burleigh, Rutland; Brown and Withers, Liverpool; Huddleston, Brown, and Co's, Warehouse, Newark.

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J. G. Barnard, Printer, 57, Snow-Hill.

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GENERAL VIEW
OF THE
AGRICULTURE
OF THE
COUNTY OF RUTLAND;

WITH
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT,
DRAWN UP FOR THE
CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

BY RICHARD PARKINSON.

LONDON:
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1808.



ADDRESS TO THE READER.

THOUGH I have had frequent opportunities of hearing the public opinion, on the Reports already published by the Honourable Board of Agriculture, during my journey in the collection of materials for the following Report, and frequently heard much censure passed on the Reporters for the insertion of opinions so much at variance, even in the same parish, many of which it is asserted, are too absurd and ridiculous for insertion. I have, nevertheless, pursued the same plan, being (independent of my Orders from the Board) well convinced of its utility; for many systems, which have at first been considered as improper or absurd, have at last proved much to the contrary. Besides, from difference of opinion, something useful may be gleaned, and from the comparison of systems in their various stages, every one can chuse that which he thinks best. In drawing up the following sheets for the consideration of the Board, not one parish is omitted, the information being drawn from gentlemen to whom I was recommended, and whatever I could collect laid down in such a manner as will, I hope, meet with their

approbation; having endeavoured to place every thing in so clear a light as to enable any one, in possession of the Report, to gain a knowledge of any part of the county, adequate to buying an estate or taking a farm. It now only remains for me to observe, that wherever, my own opinion is given, I have endeavoured to steer clear of giving any one offence, as far as is consistent with what I conceive to be the duty of a Reporter, and have endeavoured to give such a general opinion for the improvement of the Agriculture of the county, as seemed to my judgment best adapted to it; in which, should I have erred, I hold myself accountable for such error, observing that, in a *general* opinion error is very liable to creep in, as even on *one field* very different management, from its variety of soils may be necessary, how much more then upon a review of a *parish* or *district*.

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RUTLANDSHIRE.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT I.—SITUATION AND EXTENT.

THE county of Rutland is bounded by Leicestershire on the north, north-west, west, and south-west; by Northamptonshire on the south and south-east; and by Lincolnshire on the east and north-east. It is of small extent, being but 48 miles in circumference, and is divided into five hundreds, containing 91,002 acres and 29 perches, which are applied in its several parishes to the uses expressed in the following Table.

SITUATION AND EXTENT.

Parishes.	Pasture.			Meadow.			Arable.			Common.			Waste.			Plantation.			Woods.			Water.			Total.		
	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.	A.	R.	P.
Ashwell	1400	0	0	200	0	0	200	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1800	0	0
Ayston	621	0	0	128	0	0	140	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	896	1	36
Barleythorpe	700	0	0	150	0	0	150	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1000	0	0
Barrow, a hamlet to Cot- tesmore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barrowden	50	0	0	50	0	0	1400	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1500	0	0
Belton	755	0	0	140	0	0	75	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	970	0	0
Bishbrooke	900	0	0	200	0	0	700	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1800	0	0
Braunston	815	0	0	233	0	0	350	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1400	0	0
Bridge Casterton	80	0	0	50	0	0	1770	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2000	0	0
Brooke	991	1	0	286	0	0	55	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1291	3	31
Burley	1400	0	0	600	0	0	649	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3014	0	0
Caldecot	610	0	0	215	0	0	975	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1100	0	0
Clapham	200	0	0	180	0	0	920	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1470	0	0
Cottesmore	500	0	0	350	0	0	2236	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3195	3	24
Dry Stoke	1314	2	26	40	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1354	2	26
Edithweston	700	0	0	200	0	0	1100	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2000	0	0
Egleton	498	0	0	200	0	0	105	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	863	0	0
Furningham	40	0	0	200	0	0	3630	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4300	0	0
Issendine	150	0	0	60	0	0	1040	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1500	0	0
Exton	1610	0	0	240	0	0	2500	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4754	2	22
Flitton, a hamlet to Oakham	225	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	225	0	0
Glaxstone	730	0	0	120	0	0	250	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1100	0	0
Greetham	400	0	0	4	0	0	1426	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2130	0	0
Gunthorpe, a hamlet to Oakham	512	0	0	52	0	0	6	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	400	0	0

Containing nine hundred and fifty-five acres, and twenty-six perches, which are included in the account of Cottesmore.

SITUATION AND EXTENT.

3

	1940 0 0	650 0 0	250 0 0	693 0 0	30 0 0	65 2 0	2345 1 9	44 0 22	9133 0 5
Hambleton	1940 0 0	650 0 0	250 0 0	693 0 0	30 0 0	65 2 0	2345 1 9	44 0 22	9133 0 5
Ketton	130 0 0	150 0 0	2199 2 0			0 2 0			2910 0 0
Langham	1841 0 6	468 0 0	500 3 7						2550 0 0
Leafelds, a hamlet to } Oakham	1530 0 0	400 0 0	120 0 0						2809 3 7
Little Casterton	70 0 0	40 0 0	1270 0 0						2100 0 0
Lyddington	1749 0 9	150 0 0	200 0 0						1400 0 0
Albington to ditto, from } Beaconout Chase			15 0 0						2139 0 9
Lynden	672 0 0	200 0 0	90 0 0						119 1 35
Manton	830 0 0	100 0 0	100 0 0						900 0 0
Market Overton	700 0 0	120 0 0	980 0 0						1050 0 0
Martinsthorpe	386 0 6	150 0 0							1800 0 0
Morcott	20 0 0	15 0 0	965 0 0						536 0 6
Normanton	300 0 0	250 0 0	140 0 0						1000 0 0
North Luffenham	300 0 0	150 0 0	1040 0 0						700 0 0
Oakham	550 0 0	80 0 0	1310 0 0						1500 0 0
Pickworth	40 0 0	20 0 0	1901 0 0						1940 0 0
Pilton	10 0 0	65 0 0	259 0 0						2311 0 0
Preston	630 0 0	200 0 0	270 0 0						535 0 0
Rollington	1215 0 0	496 0 0	406 0 9						1100 0 0
Fyall	15 0 0	130 0 0	3455 0 0						9027 0 9
Seaton	192 0 0	100 0 0	965 0 0						4000 0 0
South Luffenham	250 0 0	87 0 0	263 0 0						1550 0 0
Streton and Spoking	1230 0 0	500 0 0	200 0 0						700 0 0
Teigh	950 0 0	150 0 0	991 0 0						2000 0 0
Tickenrope	110 0 0	50 0 0	1150 0 0						1300 0 0
Thistleton	180 0 0	180 0 0	837 0 0						1350 0 0
Thorpe		100 0 0	470 0 0						1200 0 0
Carried forward	30532 0 1	8839 0 0	38073 1 16	693 0 0	30 0 0	65 2 0	2345 1 9	44 0 22	9133 0 5

SITUATION AND EXTENT.

Parishes.	Pasture.		Meadow.		Arable.		Common.		Waste.		Plantation.		Woods.		Water.		Total.	
	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.
Brought forward . . .	30832	0 1	8839	0 0	58673	1 16	693	0 0	30	0 0	65	2 0	2345	1 9	44	0 22	81523	0 5
Tinwell . . .	200	0 0	55	0 0	1162	0 0	—	—	—	—	—	—	2	0 0	—	—	1419	0 0
Tixover . . .	100	0 0	50	0 0	550	0 0	—	—	—	—	—	—	—	—	—	—	700	0 0
Uppingham . . .	150	0 0	300	0 0	1045	0 0	—	—	—	—	—	—	2	1 27	—	—	1497	1 27
Allotment from Beaumont } Chase to Uppingham }	—	—	—	—	271	0 0	—	—	—	—	—	—	100	3 0	—	—	371	0 3
Wardley } Allotment to ditto, from } Beaumont Chase }	393	0 0	100	0 0	—	—	—	—	—	—	—	—	160	0 0	—	—	653	0 0
Wing . . .	768	0 0	100	0 0	160	0 0	—	—	—	—	—	—	205	0 38	—	—	905	0 38
Wiscondine . . .	2338	0 0	462	0 0	200	0 0	—	—	—	—	—	—	—	—	—	—	1028	0 0
Witwell . . .	80	0 0	50	0 0	475	1 36	—	—	—	—	—	—	—	—	—	—	3000	0 0
Total . . .	34861	0 1	9956	0 0	42556	3 12	693	0 0	30	0 0	65	2 0	2315	2 34	44	0 22	91002	0 29

SECT. II.—DIVISIONS.

1. **POLITICAL.**—The county is divided into five hundreds, viz. Wrandyke, East, Alsto, Okeham, and Martinsley; fifty-three parishes, and four hamlets, including two market towns.—To make the report as perfect as possible, an account of the number of acres in each hundred, the state of each parish as to its being enclosed, or otherwise, with the addition of the sort of timber in such enclosures, and in what manner enclosed, is subjoined.

WRANDYKE HUNDRED.

BARROWDEN.	Open fields.
BISHBROOKE.	Enclosed by quick-thorn hedges, with a small quantity of timber in the hedge rows.
CALDECOT.	Quick-thorn hedges, and no timber.
DRY STOKES.	Enclosed by quick-thorn and holly, with a little oak and ash timber in the rows.
GLAYSTONE.	Enclosed, quick-thorns, and a * trifling number of ashes in the rows.
LYDDINGTON.	Enclosed, quick-thorns, and a few young trees in the hedge-rows.
MORCOT.	Chiefly open fields, some small enclosures, and a small quantity of timber.
NORTH LUFFENHAM.	Open fields, except a few old enclosures, where there are oaks, ashes, and elms in the rows.

PILTON.	Open fields, but well timbered.
SEATON.	Open fields.
SOUTH LUFFENHAM.	Small enclosures and open fields, well timbered.
THORPE.	Open fields.
TIXOVER.	Enclosed by quick-hedges, and a little timber in the rows.

This hundred contains 15,178 acres, 2 roods, and 35 perches.

EAST HUNDRED.

BRIDGE CASTERTON.	Enclosed by quick-thorn hedges, with a little timber interspersed.
EMPINGHAM.	Enclosed by quick-thorn hedges, with oaks and ashes in the rows, about six trees to the acre; there are sixty acres in this parish planted with young forest trees.
ESSENDINE.	Enclosed and allotted into farms, which are not subdivided.
KETTON.	Enclosed by quick-thorn hedges, but having no timber in the rows.
LITTLE CASTERTON.	Enclosed by quick-thorn-hedges; in the old enclosures are small quantities of ash and elms; in the new enclosures none.
RYALL.	Enclosed by quick-thorn hedges, but no timber in the rows.
TICKENCOTE.	Ditto, ditto.
TINWELL.	Enclosed by quick-thorn hedges, with a little ash timber in them.

This hundred contains 18,169 acres, and is all enclosed.

ALSTO HUNDRED.

- ASHWELL.** Enclosed by quick-thorn hedges, with a little ash timber in the rows.
- BURLEY.** Enclosed by quick-thorn hedges, with ash pollards in the rows. The park contains 1085 acres, and covered with very large oaks, elms, and beech trees, of great value, and beautifully intermixed with all kinds of forest trees, &c.
- COTTESMORE.** Enclosed by quick-thorns; in the old enclosures are planted oaks and ashes; in the new enclosures this is omitted.
- EXTON.** Enclosed by quick-thorns, but no timber in the rows. Here is a deer-park, containing 1510 acres, covered with great numbers of timber trees, consisting of very large oaks, ash, elm, and beech trees.
- GREETHAM.** Enclosed by quick-thorn hedges, and well timbered in the rows with ash trees.
- MARKET OVERTON.** Enclosed by quick-thorn fences, with a small quantity of elms planted in the rows, by the Rev. Mr. Hopkinson.
- PICKWORTH.** Enclosed with quick-thorns, with a little timber in the rows.

STRETTON.	Enclosed with quick-thorns, and well timbered with large oaks and ash trees in the rows.
TEICH.	Enclosed with quick-thorns, and a great quantity of ash timber and some elms in the hedge rows.
THISTLETON.	Enclosed as above, and very well timbered with young ash trees, with here and there a few oaks.
WISSENDINE.	Enclosed as above, and a little quantity of ash and oak trees in the rows.
WITWELL.	Principally open fields, a few old enclosures, and a little timber in the rows.

This hundred contains 97,091 acres and 2 perches, being all enclosed, as will appear in the above list, except Witwell,

OKEHAM SOKE HUNDRED.

BARLEYTHORPE.	Enclosed by quick-thorn hedges, and a small quantity of ash timber in the rows.
BELTON.	Enclosed as above, with a small portion of timber in the rows.
BRAUNSTON.	Enclosed as above.
BROOKE.	Enclosed as above, and well timbered with ash and oak in the rows.
CLIPSHAM.	Ditto, ditto.
EGLETON.	Enclosed as above, and a small quantity of oak and ash in the rows.

FLITTORIS.

FLITTORIS.	Enclosed by quick-thorn hedges, and a small quantity of oak and ash in the rows.
LANGHAM.	Enclosed as above, with a great number of pollards in the rows.
OAKHAM,	Open fields.
WARDLEY,	Enclosed with quick-thorn hedges, and small quantities of ash and elm in the rows.

This hundred contains 15,222 acres, 2 roods, and 38 perches, and is all enclosed but Oakham,

MARTINSLEY HUNDRED.

AYSTON.	Enclosed by quick-thorn hedges, with timber in the rows; there is also a spinney, containing 7 acres, of 17 years growth.
EDITHWESTON.	Enclosed as above, and a small quantity of oak, ash, and elm timber in the rows.
HAMBLETON.	Enclosed as above, and pretty well timbered with ash and oak.
LYNDEN.	Enclosed as above, and well timbered with oaks, ashes, and elms in the rows, and one acre of ash poles.
MANTON.	Enclosed with quick-thorn hedges, with some young timber trees in the rows.
MARTINSTHORPE.	Enclosed as above, with some oak and ash timber in the rows.

NORMANTON.

NORMANTON.	Enclosed with quick-thorn hedges, with six young trees planted in the rows, per acre. Here is a park containing 400 acres and about 2000 large timber trees, consisting of oak, ash, beech and limes.
PRESTON.	Enclosed by quick-thorn hedges, in which are many very fine ash trees.
RIDLINGTON.	Enclosed by quick-thorns, with little timber in the rows.
UPPINGHAM.	Enclosed by quick-thorns, with timber in the rows; here is also a spinney of 2 acres.
WING.	Enclosed with quick-thorn hedges, and a small quantity of timber in the rows.

This hundred contains 15,340 acres, 2 roods, and 34 perches, including Beaumont Chase, which consists of 695 acres, 2 roods, and 36 perches, and has been allotted to Uppingham, Lyddington, and Wardley.—(SEE TABLE PAGES 2 and 3.)

SECT. 3.—CLIMATE.

The climate is very good and healthy. It is thought that the winds blow as many days in the year from one quarter as another, the west excepted.

For the quantity of rain fallen for the following eight years, I am indebted to Samuel Barker, Esq. of Lyndon, who formerly kept an accurate account, but has now discontinued his journal,

	Inches.
In the year 1791 ...	24, 72
1792 ...	29, 40
1793 ...	22, 91
1794 ...	26, 58
1795 ...	21, 40
1796 ...	22, 08
1797 ...	27, 85
1798 ...	21, 93.

Mean of eight years 24, 61; but, as the year 1792 is a very large one, the average, probably, should not be more than 24 inches.

SECT. IV.—SOIL.

UNDER this head will be shewn the number of acres of the different soils in each parish, as near as could be computed throughout the county, in alphabetical order.

ASHWELL.	600 acres of red land, 600 acres of good clay, and 600 acres of poor clay.
AYSTON,	590 acres of red land, 298 of white clay.
BARLEYTMORPE,	250 acres of good clay, 500 acres of poor clay, 250 acres of hazel earth.
BARROWDEN,	150 acres of red land, 750 of white stony land, 600 of black clay.
BELTON,	485 acres of good clay, 242 of poor white clay, 243 of gravelly clay.
BISHBROOKE,	450 acres of sandy land, 450 of red

•	red land, 450 white clay, 450 hazel earth.
BRIDGE-CASSERTON,	1500 red stony land, 500 wood land.
BRANSTON,	466 acres of crech land, 925 of good clay.
BROOKE,	927 acres of good strong soil, 464 of white clay.
BURLEY,	1507 acres of red land, 753 of strong clay and good feeding land, 754 of poor white clay.
CALDECOT,	550 acres of very good loam, 275 of poor white clay, 275 of poor black clay.
CLIPSHAM,	490 acres of tolerably good clay, 980 of poor sour clay.
COTTESMORE,	1597 acres of red land, 799 of crech land, and 799 of wood land.
DRY STOKE,	1016 acres of good red land, 338 of tolerable good quality, there being but little or no bad land in this parish.
EDITHWESTON,	400 acres of red land intermixed with pebbles and good land for turnips and barley, 500 of woodcock loam, 666 of lime stone, and 434 of sandy clay.
EGLETON,	216 acres of rich gravel, 432 of red soil, 215 of poor white clay.
EMPINGHAM,	100 acres of sand land, 190 of woodland, 3800 of crech land.
ESSENDINE,	190 acres of poor clay, 520 of stony

	stony land, 380 of tolerable land, 410 of heath land.
EXTON,	789 acres of crech land, 2367 of strong loam, 1578 acres of a mixture of loam and crech.
FLITTORIS	225 acres of poor white clay.
GLAYSTON,	1100 acres of very good red land.
GREETHAM	426 acres of clay land, 1704 of lime stone, or crech land, being very proper for sainfoin.
GUNTHORPE,	200 acres of gravelly soil of good quality, 200 of an inferior kind producing furze.
HAMBLETON,	970 acres of poor white clay, 1940 of scaly red land.
KETTON,	1250 acres of red clay, 625 of white clay, and 625 of strong black clay.
LANGHAM,	1405 of exceeding good loam, 702 of very good red land, and 702 of cold clay.
LEAFIELDS,	1050 acres of rich clay, 210 acres of good red soil, 840 of poor clay.
LITTLE CASTERTON,	175 acres of strong clay, 875 of stony red soil, 350 of good clay.
LYDDINGTON,	535 acres of red land, 1604 of strong clay.
LYNDEN,	450 acres of very good red land, 275 of good clay, 275 of poor white clay.
MANTON,	350 acres of good red land, 630 of good

	good strong clay, 70 of poor white clay.
MARKET OVERTON,	900 acres of red land, good for turnips, 225 of white crech, 375 of wet clay, 300 of wet red clay.
MARTINSTHORPE,	268 acres of very rich clay, 268 of very rich loam.
MERCOT,	500 acres of good red land, 250 of white land, 250 of sand, and rather poor.
NORMANTON,	660 acres of crech land, and 40 acres of sand, of poor quality.
NORTH LUFFENHAM,	750 acres of white strong land, 250 of red land, very good turnip land, 500 of a strong but poor clay.
OAKHAM,	1294 acres of very good clay, 323 of red loam, very good, 323 of a mixture of clay and red loam, exceedingly good.
PICKWORTH,	1300 acres of poor stony land, 653 wood land, of poor quality, and 350 in woods.
PILTON,	112 acres of good clay, 112 of sand, and 111 of limestone.
PRESTON,	734 acres of red soil, 366 of white clay.
RIDLINGTON,	1013 acres of red land, 1014 of poor clay.
RYAL,	800 acres of strong clay, 3200 of crech land, rather poor.
SEATON,	675 acres of red land, 169 of white

	white clay, 486 of strong clay intermixed with gravel.
SOUTH LUFFENHAM.	630 acres of creech of a poor quality, 70 of poor clay.
STRETTON,	1000 acres of strong clay, 1000 acres of wood land of a cold nature.
TEIGH,	978 acres of good red soil, 161 of good clay, 161 acres of breeding land.
THISTLETON,	600 acres of creech land, 150 of heath, 450 of wood land.
THORPE,	580 acres of strong clay, 20 acres of red land.
TICKENCOTE,	100 acres of loam, 600 of tolerably good stony land, 200 of creech, 450 of heath.
TINWEEL,	100 acres of cold clay, 908 of poor stoney land, 411 acres in Ingthorpe, a hamlet to this parish, soil unaccounted for.
TIXOVER,	525 acres of red creech land, rocky, 175 of a mixture of creech and clay tolerably good.
UPPINGHAM,	998 acres of red land, 150 of white clay, 349 of black clay.
WARDLEY,	246 acres of good gravel and clay, 247 of cold black clay, 160 acres in wood.
WING,	685 acres of good red land, 171 of good clay, and 171 inferior clay.
WISSENDINE,	2400 acres of strong clay, 600 acres of red land.

WITWELL,

WITWELL,

151 acres of strong land, rather
poor, 454 of creech land.

In the foregoing account is given the number of acres of the different soils in each parish throughout the county, as near as could be computed from the best information which I could obtain; together with such terms or names for each kind of soil, as are usually given them by the inhabitants; and although the terms or names seem many, yet, I am clearly of opinion, there are as many sorts of soil. For example, at Burley, in Lord Winchelsea's park, there is what is termed red land, (by some keal or kale) of good quality, and of a very dry convertible nature for either grass, turnips, corn or seeds: extending some distance, lower down on the north-west side of Burley, there is a sort of white, or rather blue clay soil, for though termed white clay, yet it is the understratum which consists of this soil, the surface being what I call hazel, or cankered earth; this land is bad in quality, and, being very wet, wants draining much; it is now in grass, and may be called breeding land, or suitable for store-stock. On another part is some very good meadow and pasture land, with a blue clay understratum, producing plentiful crops. On the south and south-east sides of Burley there is some very good fattening land, of a rich clay with an understratum of strong blue clay; on the south-west some high land, being a mixture of good clay and keal, and as good breeding land as any in England.

The soil of this country is, generally speaking, fertile, varying, as I have shewn above, very much; the east and south-east parts through which the great north road runs, being in general of a shallow staple, upon limestone rock, with a small mixture of cold woodland, clay soil. The other parts of the county are composed of a strong loam,

red land intermixed with keal; (iron-stone is found amongst it.) This soil is esteemed most congenial for convertible tillage crops; the understratum of the whole county, at different depths, is generally a very strong blue clay. The circumstance of this county varying so much in its soils at such small distances, causes each sort to be much more valuable than it would be, were it of one kind through the whole of a lordship. There being a proportion of each sort on the different farms, so as to have convertible high lands for tillage; low lands for grass, (which would in many parts be much improved by being drained, ploughed up, and converted into grass again, and attended with great profit) having the advantage of being proper for breeding and store stock; thus producing every thing useful within themselves. The tillage land, growing turnips for the store and fattening sheep, barley*, clover, wheat, and grass-seeds plentifully; the low lands, drained, &c. would produce cole-seed, oats, &c. and when converted into grass again, would bring good grass-seeds; by such management would be provided litter for the stables; and straw in the winter for the store cattle, and much dung be raised for the uses of the farm, whilst cattle and sheep would be raised for the fattening land. From these observations it will be seen that lordships, composed of these different soils, are of the most valuable nature. The abundant crops of grass produced on the keal land, give an opportunity of stocking the low lands more lightly, at a season when some of the low or wet lands may be liable to rot sheep. I know of no more certain prevention to the rot than light or easy stocking, and having plenty of grass; at all events, this low land

* This county produces barley of very superior quality, so that the inhabitants call it *Corn*, calling other grain by its name, such as wheat, oats, &c.

may be stocked with such sheep as are intended to be fatted and sold off. The thin stapled soils are of a good convertible nature for crops of turnips, barley, clover, wheat, vetches, lentils, and all green crops; though this kind of soil is not well off for meadow land, yet it is abundantly compensated, as the greater part of it will grow remarkably fine sainfoin; and no natural hay crop is so valuable as this, as by its being early harvested, and its continual burthen from growing so early, it is but seldom that the crop is affected by dry summers; and the eddish is of a sound dry nature for sheep or any other stock. The face of the country is, generally speaking, very beautiful, especially where it is well timbered, being much diversified by small and gently rising hills, running east and west, with vallies of about half a mile in width intervening; so that in travelling through the country there are fresh views at the distance of every three or four miles, causing its appearance to be very lively.

SECT V.—MINERALS.

THERE is nothing worthy of remark in this county under this head, except that at Ketton there is a kind of stone very proper and famous for buildings. There is also in many parts stone for lime, consisting of a soft and hard species; various opinions are entertained of the lime made from these two sorts, but in general that made from the hard stone is preferred.

SECT. VI.—WATER.

THIS county is, generally speaking, well watered; the rivers Eye and Welland are its south-west and south-east boundaries; its two principal rivers are the Guash and Chater, with a great number of rivulets, and numberless springs. The parish of Ayston is watered by springs and ponds; Ashwell by ponds and springs; Barleythorpe by ponds; Barrowden, Belton, Bishbrooke, Braunston, and Bridge Casterton, by springs, and through the latter the river Guash takes its course; Brooke is watered by ponds; Burley by springs; Caldecot chiefly from ponds, though the river Eye runs through the parish, and the Welland bounds it; Clipsham chiefly ponds, and some few springs; Cottesmore very good springs; Dry Stoke, springs; Edith-weston has two-thirds watered from springs, the remainder from ponds; Egleton by springs; Essendine is watered by springs in the town, but has no water on the heath; Exton well watered by springs; Flitteris by ponds; Greet-ham by springs in the town, but has no water on the heath; Hambleton by springs, ponds, and rivers; Ketton by springs; Langham by springs and ponds; Little Casterton generally watered by pumps from ponds; Lyddington, Lynden, Manton, and Market Overton, by springs and ponds; Martinthorpe by ponds; Morcot by springs; Normanton by springs and the river Guash; North Luffenham, one half the parish well watered from springs, the other half badly supplied; Oakham watered by springs and small rivulets; Pickworth by ponds; Pilton by springs; Preston by springs and ponds; Ridlington by springs; Ryall by springs and ponds; Seaton by springs; South Luffenham by springs and the river Chater; Stretton by

e 2

ponds;

ponds; Teigh by springs; Tickencote by springs in its valley, but is very badly watered on the heath; Thistleton by springs and ponds, except the heath, which is ill supplied; Thorpe by ponds and a rivulet; Tinwell by ponds; Texover by springs; Uppingham well watered by springs; Wardley and Wing by springs; Wissendine chiefly by ponds; Witwell and Barrow by very good springs; Leafields by springs and ponds; Gunthorpe by springs.

CHAP. II.

STATE OF PROPERTY.

SECT. I.—ESTATES AND THEIR MANAGEMENT.

AYSTON, George Fledger, Esq. Ashwell, Lord Downs, William Walcot, Esq. Mr. Gardiner, and others. Barleythorpe, Earl Winchelsea, Capt. Busby, and the Dean and Chapter of Westminster. Barrow, Col. Noel and other small proprietors. Barrowden, Marquis of Exeter, Mr. Tryon, and other smaller proprietors. Belton, Earl Winchelsea, F. Cheselden, Esq. William Kemp, Esq. and others. Bishbrooke, Sir Gilbert Heathcote and the Duke of Rutland. Bridge Casterton, Marquis of Exeter. Braunston, Col. Noel, Dean and Chapter of Lincoln, James Fepstaff, William Robinson and Hack, Esqrs. Brooke, Col. Noel. Burley, Earl Winchelsea. Caldecot, Marquis of Exeter, Lord Sondes, and Robert Walker, Esq. Clipsham, Rev. — Snow, John Hack, Esq. and other small proprietors. Cottesmore, Col. Noel, the Rector, and other small proprietors, on about 400 acres. Dry Stoke, the Marquis of Exeter and Rev. — Shields, Rector. Edithweston, Robert Tomlin, Esq. Walden Orme, Esq. and Rev. — Lucas. Eggleton, Earl Winchelsea, Rev. — Williams, and others. Empingham, Sir Gilbert Heathcote. Essendine, Marquis of Salisbury. Exton, Col. Noel and one or two small proprietors. Flitteris,

Col. Noel and Miss Ashby. Glaystone, Lord Harborough, Mrs. Tryon, Hon. — Watson, John Stranger, Esq. and other small proprietors. Gunthorpe, Sir G. Heathcote and Mrs. Ashby. Greetham, Earl of Winchelsea, Sir G. Heathcote, Francis Camberley, Esq. Rev. D. Jones, Vicar, and other small proprietors. Hambleton, Earl Winchelsea, Sir G. Heathcote, Robert Tomlin, Esq. Messrs. Howick, Gardiner, and Barker. Ketton, Lord Northwich, Lady Jane Edwards, and others. Langham, Col. Noel, Sir G. Heathcote, William Sherrard, Esq. and Mr. Sharp. Leafields, Earl Winchelsea, Sir G. Heathcote, and others. Little Casterton, Lord Pomfret. Lyddington, Marquis of Exeter, Thomas Bryan, Esq. Robert Walker, Esq. and others. Lynden, Thomas Barker, Esq. the Dean and Chapter of Lincoln, 220 acres, and the rector, 14 acres. Manton, Col. Noel, F. and N. Cheselden, Esq. Mr. Gregg, Mr. Seaton, and others. Market Overton, — Wingfield, Esq. the Rev. — Hopkins, Mr. Scott, and Henry Hopkins, Esq. and some small proprietors. Martinthorpe, Lord G. H. Cavendish. Morcot, Sir G. Heathcote, Bart. N. Tryon, Esq. and others. Norman-ton, Sir G. Heathcote. North Luffenham, Sir G. Heathcote, Sir John Smith, Thomas Barker, Esq. and others. Oakham, Earl Winchelsea, Col. Noel, and several small proprietors. Pickworth, Marquis of Exeter. Pilton, Sir G. Heathcote. W. Shields, Esq. and Rev. G. Bateman. Preston, the Rev. H. Shields, Serjeant Hill, Messrs. Lawrence and Parker, and William Belgrave, Esq. with a few small proprietors. Ridlington, Col. Noel, Sir G. Heathcote, Mr. Lightfoot, F. Cheselden, Esq. and others. Ryall, Marquis of Exeter, Mr. Bellairs, Mr. Pierpoint, and others. Seaton, Hon. John Monckton, Sir G. Heathcote, and others. South Luffenham, Sir G. Heathcote, Thomas Barker, Esq. Thomas Hotchkin, Esq. and others. Stretton,

Stretton, Sir G. Heathcote and other small proprietors. Teigh, Earl of Harborough. Tickencote, John Wingfield, Esq. Thistleton, George Fledger, Esq. and some small freeholders. Thorpe, General Morgan, Mr. Bainis, William Reacher, Esq. and some small proprietors. Tinwell, Marquis of Exeter and three freeholders. Tixover, Henry O'Brien, Esq. Mr. Tryon, and others. Uppingham, Col. Noel, W. Belgrave, Esq. C. B. Adderley, Esq. Rev. — Jones, Rector, Mr. James Hill, and other small proprietors. Wardley, George Fledger, Esq. Wing, Marquis of Exeter, William Gilson and Robert Shields, Esqrs. Mr. Gregory, the Rev. B. S. Turner, and others. Wissendine, Earl of Harborough and forty Freeholders. Witwell, Col. Noel and the Rev. — Harr is.

SECT. II.—TENURES.

THESE consist of freehold, leasehold, and copyhold; but are chiefly freehold, as will appear by the following accurate account:

Ayston and Ashwell, freehold. Barleythorpe, small part freehold, remainder copyhold. Barrow, freehold. Barrowden, part freehold, and part copyhold. Belton, Bridge Casterton, Brooke, and Burleigh, freeholds. Bishbrooke, part freehold, and part copyhold. Braunston, part freehold, and part copyhold. Caldecot, chief part copyhold, but fine certain, and very low; remainder freehold. Clipsham, Cottesmore, Dry Stoke, Edithweston, Egleton, Empingham, Essendine, Exton, Flitteris, Glayston, Gunthorpe, Greetham, and Hambleton, all freeholds. Ketton, chiefly freehold, remainder copyhold. Langham and Little Casterton, freeholds. Lyddington, part free, and part copyhold; fine certain. Lyden, freehold. Man-

ton, mostly freehold, remainder copyhold. Market Overton and Martinsthorpe, freeholds. Morcot, part freehold, and part copyhold. Normanton and North Luffenham, freeholds. Leafields, freehold. Oakham, freehold, leasehold, and copyhold. Pickworth and Pilton, freeholds. Preston, greater part copyhold, but fine certain; remainder freehold. Ridlington, freehold. Ryall, greater part copyhold, remainder freehold. Seaton, South Luffenham, Stretton, Teigh, Tickencote, and Thistleton, freeholds. Thorpe, two-thirds free, one-third copyhold. Tinwell and Tixover, freeholds. Uppingham, freehold and copyhold; the rector the lord of the manor. Wardley, Wissentine, and Witwell, freeholds. Wing, partly freehold and copyhold.

CHAP. III.

SECT. I.—HOUSES OF PROPRIETORS.

THE following is an account of those in this county:

Ayston, George Fledger, Esq. Asliwell, the rectory. Belton, Earl of Winchelsea and the rectory. Burley, the noble mansion of Earl Winchelsea, commanding a most beautiful and widely extensive prospect; and the vicarage. Clipsham, Rev.—Snow and John Hack, Esq. Cottesmore, Col. Noel. Edithweston, Robert Tomlin, Esq. Walden Orme, Esq. and Rev. Richard Lucas. Empingham, Sir Gilbert Heathcote, Bart. Exton, Col. Noel. Glaystone, Hon. George Watson. Greetham, William Gillson, Esq. Hambleton, Capt. Gardiner. Ketton, Lord Northwich. Little Casterton, Tollthorpe-house and the rectory. Lynden, Thomas Barker, Esq. Samuel Barker, Esq. and the Rev. William Barker. Morcot, N. Tryon, Esq. Normanton, Sir G. Heathcote. North Luffenham, Sir G. Heathcote. Oakham, Col. Noel. Pilton, Rev. G. Bateman. Preston, Rev. — Shields and William Belgrave, Esq. Ridlington, F. Cheselden, Esq. Ryall, — Pierpoint, Esq. South Luffenham, Thomas Hotchkin, Esq. Stretton, Sir G. Heathcote, Bart. Teigh, the rectory. Tickencote, John Wingsfield, Esq. Tixover, H. O'Brien, Esq. Uppingham, Adderley, Esq.

SECT.

SECT. II.—FARM-HOUSES, &c.

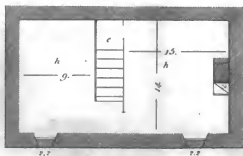
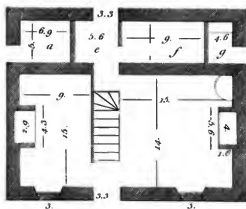
Parishes.	Farm Houses.	Dwelling Houses.	Cottages.	Repairs, and by whom done.
Ashwell	10	—	20	Tenant.
Ayston	5	—	5	Ditto.
Barleythorpe	9	—	6	Ditto.
Barrow	5	—	15	Landlord and Tenant equally.
Barrowden	8	30	10	Tenant.
Belton	10	40	10	Ditto.
Bishbrooke	6	32	4	Landlord and Tenant jointly.
Bridge Casterton	7	47	18	Landlord.
Braunston	15	—	10	Ditto and Tenant jointly.
Brooke	7	—	7	Tenant.
Burley	4	9	17	Landlord.
Caldecot	8	30	12	Ditto.
Clipsbam	7	—	10	Ditto and Tenant jointly.
Cottesmore	12	30	24	Some by Landlords, and others by Tenants.
Dry Stoke	8	6	5	Tenant.
Edithweston	7	50	—	Landlord.
Egleton	5	4	20	Ditto and Tenant jointly.
Empingham	56	30	10	Landlord.
Epsendine	6	10	6	Tenant.
Eston	9	94	30	Landlord and Tenant jointly.
Flitteris	—	—	1	Landlord.
Glaxstone	7	20	4	Tenants.
Greetham	6	—	20	Landlord and Tenant.
Gunthorpe	1	—	—	Landlord.
Hambleton	10	—	30	Ditto.
Ketton	10	50	16	Tenant.
Langham	25	25	35	Landlord and Tenant.
Leafields	3	—	—	Landlord.
Little Casterton	5	5	6	Landlord and Tenant.
Lyddington	10	150	45	Tenant.
Lydney	4	—	12	Landlord.
Manton	14	24	6	Tenant.
Market Overton	8	34	12	Landlord and Tenant.
Martinsthorpe	—	—	1	Landlord.
Mercot	7	60	3	Tenant.
Carried forward	309	870	130	

Brought

Parishes	Farm Houses.	Dwelling Houses.	Cottages.	Repairs, and by whom done.
Brought forward	300	870	430	
Normanton	1	—	2	Landlord.
North Luffenham	8	60	2	{ Some by Landlord, others by Tenant.
Oakham	16	250	14	Landlord.
Pickworth	5	13	1	Ditto and Tenant.
Pilton	4	5	1	Ditto, ditto.
Preston	9	30	3	No information.
Ridlington	5	30	7	Tenant.
Ryall	12	36	18	Ditto.
Seaton	8	20	30	Ditto.
South Luffenham	6	25	1	Landlord.
Stretton	12	5	12	Ditto.
Teigh	6	4	12	Tenants.
Tickencote	5	14	—	Landlord and Tenant.
Thistleton	6	4	5	Tenants.
Thorpe	5	10	5	Ditto.
Tinwell	8	30	1	Landlord.
Tixover	2	6	1	Tenant.
Uppingham	6	130	69	Landlord.
Wardley	6	5	5	Ditto and Tenant.
Wing	7	39	5	Tenant.
Wissendine	21	40	40	Landlord and Tenant.
Witwell	3	—	8	Tenant.
Total	470	1536	672	

The farm-houses are, generally speaking, good, but inconveniently situated, being mostly in towns; whereas they ought to be erected on the farms, which would make them much more valuable both to landlord and tenant. The offices are seldom well constructed; there are too few of them, and mostly badly connected. The rent of cottages varies very much; in some towns in the county, a comfortable house with a good garden is let at 1*l.* per annum; these are hired of gentlemen; but in some towns where the cottages are let at second-hand, high rents are paid for them,

Plan 1. (Cottage House)

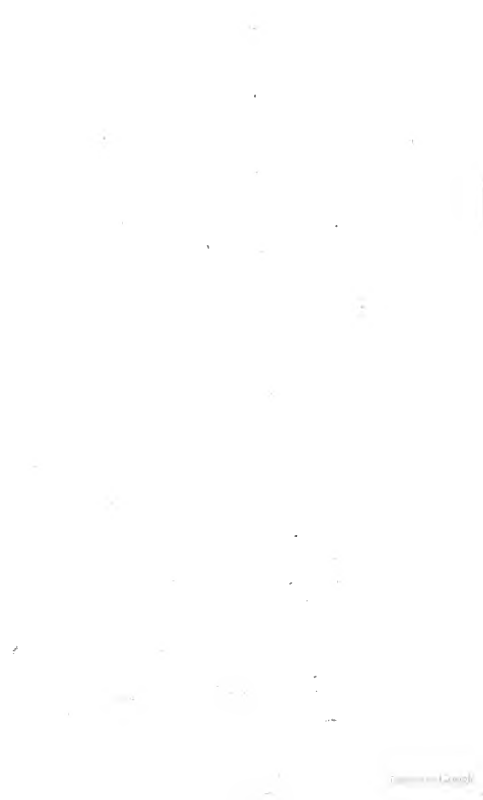


a Kitchen
b Parlour
c Stair Case

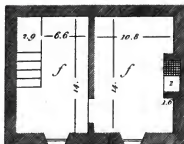
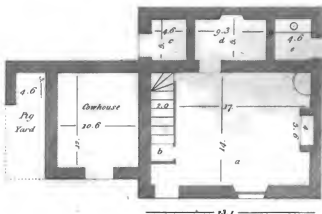
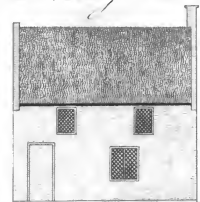
d Cell Place or Woodhouse
e Passage & Place for Washing Dishes
f Dairy

g Privy
h h Two Chambers
i Closet

Scale 1/2".



Plan 2, Cottage House.

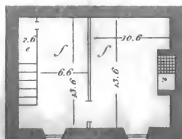
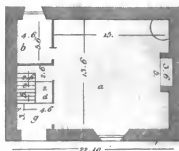
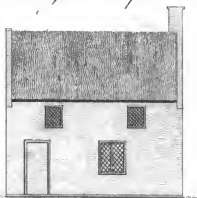


a Kitchen
b Place under Stairs
c Calf house In Loft

d Partry
e Privy
f Two Chambers

Scale &c.

Plan 3. Cottage House for a Laborer.



a Kitchen

b Pantry

c Ladder in lieu of Stairs

d Cupboard

e Closet

f Two Chambers

g Inner Porch

Note on.

CHAP. IV.

OCCUPATION.

SECT. I.—SIZE OF FARMS.

ASHWELL from 15 acres to 240; Ayston 40 acres to 210; Barleythorpe 20 acres to 60 and 310 acres; Gunthorpe one farm, 400 acres; Barrowden 60 acres to 100 and 150; Belton from 62, 70, 76, 90, and 112 acres; Bishbrooke 26 to 30, 50, 80, and 100 acres; Bridge Casterton 40 acres, 193, 200, 375 acres; Braunston 60, 100 and 200 acres; Brooke 60 acres, 200 and 397; Burley 140, 320, 400, 421; and Earl Winchelsea 640; Caldecot from 60 acres to 100, 125 and 195 acres; Clipsham 67 acres to 70 and 250; Cottesmore 100 acres to 190 and 200; Dry Stoke 30 acres to 260 and 300; Edithweston from 50 acres to 60, 140, 200 and 500 acres; Egleton from 131, 135, 140, 155 to 182; Epingham 6 farms of 20 acres; 10 farms from 100 to 150 acres; 4 farms from 200 acres to 250; 26 farms from 20 to 50 acres; Essendine from 80, 120, 200 to 300 acres; Exton 20 acres to 25, 30, 80, and 348 acres; Glaystone 3 farms of 70 acres; 3 others of 40, 60, and 120 acres; Greetham from 30 to 300, 320, and 700 acres; Barrow from 30 acres, 50, 80 to 170; Hambleton 20 acres to 113, 115, 150, and 180 acres; Ketton from 70 acres to 250 and 300 acres; Langham from 20 acres to 50, 100 and 300 acres; Leafields

Leafields from 52 acres to 150, 170 and 486 acres; Little Casterton 40 acres, 150 and 350 acres. Lyddington from 20 acres to 100, 150, and 300 acres; Lynden from 32 acres to 84 and 122 acres; Manton 50 acres to 100 and 200; Market Overton 30 acres to 220; Martinsthorpe 128 acres to 215, and small plots let to cottagers of Manton; Morcot from 50 acres to 70, 90 and 140; Normanton 400 acres in Sir Gilbert Heathcoate's park, 300 by different occupiers in Empingham; North Luffenham from 60 acres to 70, 100 and 250; Oakham from 64 acres, 110 to 220 acres; Pickworth from 100 acres, 114, 250, 270, 300, 427 to 500 acres; Pilton from 20 acres to 60, 80 and 140 acres; Preston from 20 acres to 50, 80, and 200 acres; Ridlington from 12, 80 to 100 acres; Ryall 60, 150, 200 to 360; Seaton 70 acres to 200; South Luffenham 70 acres to 200; Stretton 50 to 200; Teigh 200 acres to 500; Tickenhote one farm 70 acres, 5 of 100 acres, 1 of 200 acres, 1 of 300 acres, and 1 of 480 acres; Thistleton from 120 acres, 200 to 260 acres; Thorpe from 40, 90, 100 to 140 acres; Tinwell from 12 acres to 26, 60, 93, 130, 145, 170 and 298 acres; Tixover 2 farms of 250 acres each; Uppingham from 40 acres, 50, 80, 90 to 120 acres; Wardley 28 acres to 35, 40, 45 and 267; Wing from 16 acres to 40, 136 and 180 acres; Wissendine from 100 acres to 200 and 300 acres; Witwell from 20 acres to 30, 70, and 220 acres.

By the foregoing account it will be seen that farms are by no means large in this county, and never rise to the great amount they do in some counties, three or four hundred pounds a year being esteemed a large farm; there are a great many very small farms. Several gentlemen farm part, and some the whole of their land.

SECT. III.—RENTS.

PARISHES.	Average Rent.	PARISHES.	Average. Rent.
	£. s. d.		£. s. d.
Astwell	1 6 0	Manton	1 10 0
Ayston	1 6 0	Market Overton.....	1 6 0
Barleythorpe	1 2 0	Martinsthorpe	1 7 0
Barrow	1 2 0	Morcot	0 16 0
Farrowden	0 10 0	Normanton	1 4 0
Belton	1 3 0	North Luffenham ..	0 15 0
Bishbrooke	1 2 0	Oakham	0 17 0
Bridge Casterton....	0 15 0	Pickworth	0 10 0
Braunston	1 2 0	Pilton	0 15 0
Brooke	1 6 0	Preston	1 2 0
Burley	1 5 0	Redlington	1 3 0
Caldecot	1 10 0	Ryall	1 0 0
Clipsham	0 17 6	Seaton	0 16 6
Cottesmore	1 0 0	South Luffenham ..	0 14 0
Dry Stoke	1 9 0	Stretton	0 18 0
Edithweston	0 19 0	Teigh	1 8 0
Empingham	0 12 0	Tickencote	0 10 0
Essendine	0 15 0	Thistleton	0 16 0
Exton	1 1 0	Thorp	0 10 0
Flittoris	1 1 0	Tinwell	1 0 0
Glaxton	1 6 0	Tixover	0 18 0
Greetham	0 12 0	Uppingham	2 0 0
Gunthorpe	1 0 0	Wardley	1 5 0
Hambleton	1 4 0	Wing	1 5 0
Kelton	1 0 0	Wissendine	1 2 0
Langham	1 6 0	Witwell	1 1 0
Leafield	1 5 0		
Little Casterton....	1 0 0		
Lyddington	1 9 0		
Lynden	1 5 0		

The average rent of this county is about 21s. per acre.

SECT. IV.—TITHE.

ASHWELL tithable 3s. in the pound, Ayston, *modus* Barrowden tithable. Barleythorpe, Barrow, Belton, Bishbrooke, Bridge Casterton, Braunston and Brooke, are all tithe free. Burley tithable 3s. 6d. per acre; Caldecot and Cottesmore tithe free. Clipsham tithable 3s. 6d. per acre; Dry Stoke tithable 4s. 6d. per acre; Edithweston a *modus*, Eggleton, Empingham and Exton tithe free. Essendine tithe in kind. Flittoris tithable 1s. 6d. per acre. Glayston tithable 2s. per acre. Greetham a *modus*. Gunthorpe tithable 1s. 6d. per acre. Hambleton tithable, paying 100l. per year. Ketton tithe free. Langham pays small tithes to the vicar. Leafield, Little Casterton and Lyddington, are tithe free. Lynden tithable 1s. 6d. per acre. Manton and Market Overton tithe free. Martinthorpe tithable, paying 70l. per annum. Morcot tithable 5s. 6d. per acre. Normanton tithe free. North Luffenham tithable 4s. per acre. Oakham tithable, great tithes 5s. 6d. per acre, besides a small vicarial tithe. Pickworth and Preston tithe free. Pilton tithable 4s. 6d. per acre. Ridlington, part paying tithes and part none. Ryall tithe free. Seaton tithable 3s. 3d. per acre, Stretton and South Luffenham tithable 3s. per acre each. Teigh part tithable at 2s. per acre, and another part paying no tithes. Tickencote tithable, paying 100l. per year. Thistleton a *modus*, 1s. 6d. per acre. Thorpe tithe in kind. Tinwell tithe free. Tixover tithable 3s. 6d. per acre. Uppingham tithe free. Wardley tithable 3s. 9d. per acre. Wing and Wissendine tithe free.

It may be observed, that the greater part of the parishes are exonerated from tithes, either by *modus* or being made free. This desirable object has been attended to in all the recent enclosures, and the greatest advantages in every respect have been the happy consequence to both the clergy and the laymen.

SECT. V.—POOR RATES.

At Ashwell the poor rate is 1s. 3d. in the pound. At Ayston 1s. Barleythorpe and Barrowden 4s. 6d. Barrow 2s. Belton 4s. Bishbrooke 5s. Bridge Casterton 3s. Braunston 4s. being levied on three-fourths of the rent. Brooke 1s. 6d. Burley 1s. Caldecot 2s. 6d. Clipsham 1s. 10d. Cottesmore 2s. Dry Stoke 1s. 6d. being levied on three-fourths of the rent. Edithweston 2s. 6d. Eggleton 1s. being levied on four-fifths of the rent. Empingham and Exton 2s. Essendine 1s. 6d. Flitteris 5s. Glayston 4s. Greetham 3s. being levied on two-thirds of the rent. Gunthorpe pays 5l. per year to the poor's rate at Oakham. Hambleton 1s. 6d. in the pound. Ketton 4s. Langham 2s. Leafields 1d. per acre to Oakham poor's rate. Little Casterton 1s. 3d. per pound. Lyddington 3s. Lynden 1s. 6d. Manton 3s. Market Overton 2s. Martinthorpe no poor's rate. Morcot 4s. per pound. Normanton 1s. 2d. North Luffenham 5s. Oakham 5s. Pickworth 2s. Pilton 3s. 6d. Preston 5s. being levied on three-fourths of the rent. Ridlington 1s. 8d. Ryall 3s. Seaton 5s. being levied on three-fourths of the rent. South Luffenham 3s. Stretton 2s. Teigh 1s. Tickencote 10d. Thistleton 1s. 6d. Thorpe 2s. Tinwell 3s. Tixover 2s. Uppingham 4s. Wardley 1s. Wing 2s. 6d. Wissendine 3s. Witwell 1s.

The poor's rates are generally low, and I am of opinion this circumstance proceeds from a great many cottagers being allowed small portions of land, just sufficient to enable them to keep one or two cows, without preventing them from working constantly as day labourers; this custom does not prevail in all the parishes, but, where it does, the good effects of it are felt by the cottagers themselves

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in the highest degree, and by the proprietors and occupiers of land in the industry and good order kept by them; and lastly, by the consequent reduction of the poor's rates. The average of the poor's rate through the county, is to shillings and seven pence per pound.

SECT. VI.—LEASES.

At Caldecot, one farm is leased for 13 years. At Clipsham, one farm for 14 years. At Exton, two small farms are leased. Greetham, two farms let on lease. One farm let at Little Casterton for 21 years. The vicarage farm at Lyddington is let on a lease for 21 years, and the prebendal farm for 7 years. Manton; here are two leases granted by the Dean and Chapter of Lincoln to Colonel Noel, term unknown. One farm let on lease for 21 years at Ryall; and on one farm at Tinwell, for the like duration. The rectory farm at Uppingham is let on lease for 21 years. At Wardley, one farm let on lease.

The greatest part of the land, it will therefore appear, is let to tenants from year to year. This may be accounted for by the smallness of the farms in general throughout the county, as remarked in a preceding section, as on a small farm a lease is by no means so necessary as on a large one, for many reasons, which the reader will find explained at length in the third edition of *The Experienced Farmer*, vol. II. part 3, page 288. The covenants betwixt landlord and tenant are generally the same as have existed a long time back.

SECT. VII.—EXPENSES AND PROFIT.

Dr.	Expenses on 3 Acres of open Field Land for one Year, } according to the present method.	l.	s.	d.	Per Contra.	Produce,	l.	s.	d.	Cr.
<i>One Acre Summer Fallow.</i>										
To ploughing twice, at 10s. 6d. each time		1	1	0						
Manure, 10 loads, at 10s. 6d. per		5	5	0						
Rent		1	5	0			7	15	0	
Assessment		0	4	0						
<i>One Acre Wheat.</i>										
To ploughing, to cover the seed		0	10	6						
Seed, 3 bushels, at 10s. per		1	10	0						
Weeding		0	0	6						
Reaping and harvesting		0	14	6						
Threshing 24 bushels, at 34d. per		0	7	6			4	12	0	
Rent and Assessment		1	9	0						
										By 24 bushels of Wheat, at 10s. per
										12 0 0
										Straw
										1 10 0
										13 10 0
<i>One Acre Beans.</i>										
To ploughing and harrowing		0	12	0						
Seed, 4 bushels, at 5s. 3d. per		1	1	0						
Weeding		0	0	6						
Mowing and harvesting		0	5	0						
Threshing 24 bushels, at 24d. per		0	5	0			3	12	6	
Rent and Assessment		1	9	0						
										By 24 bushels of Beans, at 5s. 3d. per
										6 6 0
										Straw
										1 10 0
										7 16 0
<i>Expenses</i>										
		15	19	6						
<i>Profit</i>										
		5	6	6						
		21	6	0						21 6 0

Dr.	Expenses on 4 Acres of Land for one Year, under an improved System.	£. s. d.	Per Cent.	Produce.	£. s. d.	Cr.
<i>One Acre Beans.</i>						
To Manure, 10 loads, at 18s. per load	0 0 0					
To Ploughing and harrowing	0 12 0					
To Sowing, 4 bushels, at 3s. 3d. per bushel	1 1 0					
To Weeding	0 6 0					
To Mowing and harvesting	0 5 0					
To Threshing 68 bushels, at 10s. per bushel	6 8 0					
Rent and Assessment	1 0 0					
		9 17 10		By 68 bushels of Beans, at 5s. 3d. per bushel	1 7 0	8 17 0
				Straw	1 10 0	
<i>One Acre Barley.</i>						
To Ploughing and harrowing	0 12 0					
To Sowing, 4 bushels, at 3s. 3d. per bushel	1 0 0					
To Weeding	0 1 0					
To Mowing and harvesting	0 6 0					
To Threshing 36 bushels, at 10s. per bushel	3 6 0					
Rent and Assessment	1 0 0					
		4 3 3		By 36 bushels of Barley, at 5s. per bushel	9 0 0	10 10 0
				Straw	1 10 0	
<i>One Acre Clover.</i>						
To Manure, 6 loads, at 18s. per load	0 12 0					
To Ploughing and harrowing	0 6 0					
To Sowing, 2 bushels, at 10s. per bushel	2 0 0					
To Weeding	0 6 0					
To Mowing and harvesting	0 6 0					
To Threshing 2 bushels, at 10s. per bushel	2 0 0					
Rent and Assessment	1 0 0					
		5 7 0		By 3 tons of Clover, at 3l. per ton	9 0 0	9 0 0
<i>One Acre Wheat.</i>						
To Ploughing and harrowing	0 12 0					
To Sowing, 3 bushels, at 10s. per bushel	3 0 0					
To Weeding	0 1 0					
To Mowing and harvesting	0 1 0					
To Threshing 68 bushels, at 10s. per bushel	6 8 0					
Rent and Assessment	1 0 0					
		4 15 3		By 68 bushels of Wheat, at 10s. per bushel	14 0 0	15 10 0
				Straw	1 10 0	
<i>Expenses and Profit.</i>						
	Expenses	24 3 4				
	Profit	10 13 8				
		43 17 0		Produce		43 17 0

It appears from the above calculations, that by the present system or method, the profit is but 1l. 15s. 6d. per acre; whilst by the new system, 4l. 18s. 5d. is produced per acre. The rent and expenses of the fallow year on the old method, returning once in every three years, is the reason of the lowness of profit thereby. The new system is debited 1s. 6d. per load more for the manure than the old, which is more than a full compensation for the compost mixing. In the quantity of manure, I have allowed ten loads per acre on the old system from the two crops, which is more by two than they would produce whilst under the other system; many more loads of manure would be raised than is reckoned upon, for allowing five loads of straw from each crop, which it is fair to allow, credit being only taken for the same quantity as on the old, when there is great reason to believe the bulk would be much increased, there would be twenty loads of straw-dung to mix up for compost with earth; which reasoning on the strength of my experiments in Ireland, (see *English Practice of Agriculture*, page 29) by being mixed up for compost, would produce fifty loads, and I only take credit for sixteen loads. Only four bushels of beans per acre are allowed for increase under the new system, when, from the application of the manure, it would probably be eight bushels; and on the wheat-crop four bushels are also only allowed as increase, which by reason of the manuring every other year, would very likely be more. Lime is not charged on either system, the one having as much occasion for it as the other, and on account of its not being a general practice. By the practice of making of compost, instead of robbing the meadows for the ten loads of manure now raised under the old method, there would be the most ample supply for all the purposes of tillage, meadow, and pasture; and instead of the farm being on the decline in fertility, it would be kept gradually improving. Though a

very great advantage, it appears by the above calculations, is obtained over the old system, by the system here laid down; yet still greater would accrue from the adoption of the following, which I have tried, and found to answer; but being so foreign to the general practice, I shall give it only for the reader's opinion and judgment, viz. by taking into the account the black eye or pearl pea drilled and manured, as explained in *The Experienced Farmer*, edit. 3. vol. 1. pages 325 to 336, that crop being off in July, if the land has got any couch-roots in it, there is time for the necessary process of making a clean fallow for barley and clover; or should there not, it may be sown with rape for spring feed, and then with barley and clover, then wheat, then manured for beans, and then a crop of oats, or other grain, which may be thought more advisable, according to times. The reason principally for the process, is to have the clover crop only once in six years, instead of four; as by taking a clover crop too frequently, it is proved not to yield so well. By this six years process, a change of grain may be made every year, and fewer clover crops; for although clover is a very useful crop, yet it does not bring in profit equal to corn crops. I have dwelt thus long upon this head, thinking that the management in this county on the clay soils, is more deficient than any other, being the best land, and producing the least profit. It may be observed, under the head *Seed, Produce, &c.* which I have classed in *CHAP. VII. SECT. IV.* that where summer fallows are in practice, the produce is not larger than it is on inferior lands, under the clover lea system; the natural conclusion is, that the fallow year is a dead loss of both dung and profit, the more crops land produces, the more dung; that summer fallowing impoverishes the soil by exhalation; that the length of time taken up by that process is unnecessary; and lastly, that it has not always been the destruction of weeds, but in some instances, especially where land is light, an encouragement to their growth.

CHAP. V.

IMPLEMENTS.

THERE are no implements of husbandry peculiar to this county; the Leicester single wheel and double furrow ploughs have been introduced, and being much better implements than the long-beamed swing ploughs, will, in process of time, banish them from the field. Harrows are, generally speaking, much too light and small; the rollers are also, in general, much too light, and none fit for grass land.

CHAP. VI.

ENCLOSING.

THE advantages attending enclosures are of such inestimable value, viewed in whatever light we may, whether as to the exoneration from tithe, the lowering of the poor rates, or lastly, but not least, in the growth of timber, that I cannot but express my sorrow, that an act of parliament for that desirable purpose is so very expensive; and it is much to be lamented, that the exertions of the present worthy President and the Hon. Board of Agriculture, have not been crowned with that success so much merited, in endeavouring to do away this, in many cases, almost insurmountable impediment to improvement. There are two parishes in this county where enclosures would be of the most material advantage, and much desired. South Luffenham and Oakham, the latter being a market town, having the benefit of a navigation, and the most improvable lordship I ever viewed, the land being not only superior to any parish in the county, but perhaps to any in the kingdom, and would certainly double its present rental, having not only some of the best tillage land, but some as fine fattening land as shall be found in any district.

CHAP. VII.

TILLAGE.

SECT. I.—PLOUGHING.

ASHWELL and Ayston, with two horses abreast; double plough, four horses. Barleythorpe, three or four horses single, and a driver. Barrowden, three or four horses. Belton, four horses and a driver. Bishbrooke, three horses single, and a driver. Bridge Casterton, two horses double; and four horses single. Braunston, with three or four horses, and a driver. Brooke, three or four horses. Burley, two or four horses double, three horses single, and a driver. Caldecot, three horses single, and a driver. Clipsham, three horses, and sometimes four horses. Cottesmore, from four to six horses. Edithweston, two abreast, and three single, and a driver. Egleton, three or four horses, and a driver. Empingham, two double, or three single horses, and a driver. Essendine, two horses double, five single, and a driver. Exton, three or four horses. Glayston, two abreast, some with three horses. Gréetham, four horses to a double furrow plough. Hambleton, three horses and a driver. Ketton, two horses abreast, and three single. Langham, two horses double, and three or four single, and a driver. Leafields, four horses and a driver. Little Casterton, two double, four single, and a driver. Lyddington, three or four horses, and a driver.

driver. Lynden, three horses. Manton, three, and sometimes four horses single, and a driver. Market Overton, two horses double, three or four single, and a driver. Morcot, three or four horses, and a driver. Normanton, two horses abreast. North Luffenham, two horses abreast, three or four single. Oakham, four single, and a driver. Pickworth, three or four horses. Pilton, four horses to a double furrowed plough. Preston, three horses single, and a driver. Ridlington, two horses abreast, five to a double furrowed plough. Ryall, two horses double, five single, and a driver. Seaton, four or five horses. South Luffenham, four or five horses single, and a driver. Stretton, three horses. Teigh, two horses abreast; for fallowing, four horses. Tickencote, two horses abreast, by John Wingfield, Esq.; others vary. Thistleton, two horses abreast; with a double furrow plough, three or four horses at length. Thorpe, three or four horses. Tinwell, in seed time, two horses abreast; at other times, three or four. Tixover, three or four horses. Wissendine, two or three horses. Uppingham, five horses are used in a double furrow plough. Wing, two horses abreast; and three or four single. Witwell, three or four horses. Gunthorpe, three horses.

How to account for the very injudicious method of ploughing, which is practised in this county, I should have been at a loss, or for what reason, from five, to six, seven, and eight horses, and three men, could possibly be employed with one plough, had I not witnessed what gave me reason to suppose it originated from the time of the year the fallows are made. I saw, whilst in the county, ploughing, if it might be so called, (as in some places the earth was absolutely torn up as deep again as it ought to be; and in other places entirely missed) performed in the month of July, to the greatest distress of the number of horses I have above-

above-mentioned, and the destruction of the ploughs and harness, I could then no longer be at a loss for a reason why such numbers were employed. Convinced as I am of the inutility of the very procedure which they were about, and of the work being infinitely better accomplished with two horses and one man, (generally speaking) at a proper season, it may naturally be supposed what were my feelings, without giving myself the pain to state them here.

ARABLE LAND.

SECT. II.—FALLOWING.

AT Ashwell, summer fallows are deemed necessary on clay lands. Ayston, fallow for turnips, and summer fallow on white land, and for rye. Barleythorpe, fallows for turnips. Barrowden, fallow for turnips; and summer fallows necessary in the open fields. Belton, summer fallows necessary. Bishbrooke, fallows for turnips. Bridge Casterton, summer fallows necessary. Braunston, summer fallows necessary. Brooke, the fallow system pursued in a small degree for turnips. Burley, summer fallows unnecessary. Caldecot, summer fallows proper. Clipsham, summer fallows necessary. Cottesmore, summer fallows thought necessary for wheat, but not much pursued since the enclosure took place. Edithweston, summer fallow deemed unnecessary by Robert Tomlin, Esq. but practised by several in this parish. Eggleton, fallowing lands for turnips necessary. Empingham, fallow for turnips. Essendine and Exton, summer fallows necessary. Glayston, summer fallows not deemed unnecessary. Greetham, fallows made for turnips, and summer fallows on stiff soils. Hambleton, summer fallows necessary. Ketton, fallows
for

for turnips, and some summer fallow. Langham, fallows made for turnips. Little Casterton, summer fallows made on clay land. Lyddington and Lynden, fallow for turnips. Manton, fallow for turnips, and summer fallows judged proper by part of the farmers on the clay soils. Market Overton, fallow for turnips. Morcot, Normanton, North Luffenham, and Oakham, summer fallow is thought necessary at these several parishes. Fallow is thought necessary at Pickworth, on woodland and stony land, for turnips. Pilton, summer fallows made at present; but would be rendered useless were the parish enclosed. Preston, fallow for turnips. Ridlington, fallowing for turnips. Ryall, summer fallows necessary. Seatou, summer fallows practised. South Luffenham, summer fallows necessary. Stretton, summer fallows necessary. Teigh, fallows for turnips. Tickencote, fallows for turnips. Thistleton, fallow for turnips. Thorpe, summer fallows necessary. Tinwell, summer fallows only necessary on the strong land. Tixover, fallows for a turnip crop on the strong soils. Up-pingham, summer fallows necessary. Wing, fallow for turnips. Wissendine, necessary on some soils for turnips. Witwell, summer fallowing necessary. Leafields and Gunthorpe, fallows made for turnips.

The present method of making fallows on strong clay soils in Rutland, seem to me as though purposely designed to create trouble by the encouragement given to the growth of weeds. During the time I was on the Report of this County, I observed many of the farmers ploughing for fallow, for the first time in the month of July, which is at a time when most weeds have given over vegetation, it having been so ordered by Providence, that those weeds should vegetate at such a season as to have time to bring forth seed to ripen for their future production. The ploughing therefore now is too late for a prevention. Besides, from
the

the nature of their ploughing, which I have mentioned under the head Ploughing, the land is torn up in such large lumps or clods, that it is utterly impossible for the small seeds to vegetate, but they are thus laid up as safe as though laid up in a granary for their future reproduction. Thus is the farmer deceived, and imagines he has made a clean fallow, for so it at that time appears to the eye, and although the weeds may not be seen to grow in greater numbers in the wheat than *common*, by reason of the land having been ploughed against the winter season for wheat, that being at a time when weeds do not vegetate, and by the coming of the spring months, the earth gets so hardened or sad, on those clay soils as to prevent their vegetation during the wheat crop; but in the succeeding bean or pea crop they grow in abundance, and the farmer is now all astonishment, saying, "he is sure he made a clean fallow, and whence then those weeds?" not considering that he himself had been so friendly to their preservation. The seeds of weeds are defended by so many coats, that they will lay any length of time in the soil, and of course vegetate when the earth gets into a state proper for that purpose.

SECT. III.—COURSE OF CROPS.

Ashwell,	The rotation of crops on red land is turnips, barley, clover, wheat on clay summer fallow, wheat, beans, or white clover, or small seeds for pasture.
Ayston,	Oats, turnips, barley, seeds for four years.
Barleythorpe,	On the turnip land turnips, barley, clover,

	clover, wheat; on strong land summer fallow, wheat, beans.
Barrowden,	Turnips, barley, clover, wheat; on clay summer fallow, wheat, beans.
Belton,	Summer fallow, wheat, beans or pease.
Bishbrooke,	Turnips, barley, clover or pease, wheat.
Bridge Casterton,	Summer fallow, wheat, clover, pease, beans or oats for woodland; on stony land turnips, barley, clover, two years; then pease, beans or oats.
Braunston,	Summer fallow, wheat or barley, pease and beans, oats.
Brooke,	Turnips, barley or oats; on the strong land, summer fallow, wheat, oats.
Burley,	Oats, pease or beans, barley, turnips, barley or oats, seeds for two, three, or four years, oats for two years, turnips, barley, seeds for four years. Seeds seldom mown.
Caldecot,	Summer fallow wheat or barley, then oats.
Clipsham,	Summer fallow wheat or barley, beans or oats.
Cottesmore,	Oats, turnips, barley, seeds for two years
Edithweston,	On limestone land turnips, barley, clover, wheat; on sandy clay turnips, barley or oats.
Egleton,	On gravel or keal turnips, barley, clover, wheat; on clay summer fallow, wheat or beans.

Empingham,

Empingham,	Turnips, barley, seeds for two years, beans, wheat
Essendine,	Two crops and a fallow, wheat and beans.
Exton,	On strong loam, summer fallow, wheat, beans or barley, or oats; on creech land, turnips, barley or oats, then seeds.
Glaystone,	Turnips, barley, clover, wheat, oats.
Greetham,	On clay land, summer fallow, wheat, pease or beans; on lime stone, turnips, barley, seeds, oats or barley, or vetches, or hurls or lintels.
Ryall,	On creech or stony land, turnips, barley, clover, beans or pease, or oats; on strong clays, summer fallow, wheat, beans.
Seaton,	On strong lands, summer fallow, wheat and beans; on light sands, turnips, barley, clover and wheat.
South Luffenham,	Summer fallow, wheat or barley, beans or oats.
Stretton	On creech land, turnips, barley, clover, wheat; on strong clay summer fallow, wheat and beans.
Teigh,	Turnips, barley, red clover, beans; on some land, turnips, barley, clover, and turnips again.
Tickencote,	Turnips, barley, seed, two years, oats or wheat, peas or vetches.
Thistleton,	Turnips, barley, seeds, wheat, pease or lintels; the hedge pea answers well here.

Thorpe,

Thorpe,	Summer fallow, wheat or barley, beans or oats.
Tinwell,	On strong lands, summer fallow, wheat and beans; on light land turnips, barley, clover, wheat.
Tixover,	Strong land, summer fallow, wheat and beans, and red crech land, turnips, barley clover, wheat.
Uppingham,	Turnips, barley, clover, wheat, (strong land seeded.)
Wing,	Turnips, barley, clover, wheat.
Wissendine,	Turnips, barley, clover or beans, wheat.
Witwell,	Summer fallow, wheat or barley, beans and pease.
Leafields,	Turnips, barley, beans or clover, summer fallow, wheat, beans.
Hambleton,	Turnips, barley or oats, seeds, wheat.
Ketton,	On strong land, summer fallow, wheat or beans; on turnip land, turnips, barley, clover, wheat, oats, or pease, or beans.
Langham,	Oats, turnips, barley, seeds for four years, sometimes longer.
Little Casterton,	On strong clays, summer fallow, wheat, and beans; on light land, turnips, barley, seeds one year, sometimes two years, wheat, barley or pease.
Lyddington,	On strong land, summer fallow, wheat and beans; on light lands, turnips, barley, wheat.
Lynden,	Turnips, barley, clover, oats.
Manton,	On clay land, summer fallow, wheat or barley, beans; on red land, turnips, barley, clover or beans, wheat.
	Morcot,

Market Overton, Turnips, barley, clover, wheat, pease, beans or oats.

Morcot, Turnips, barley, clover, wheat.

Normanton, Two crops and a fallow, wheat, beans.

North Luffenham, Rotation for nine years, being on the open field system.

1 Fallow, manure and sheep folding.	1 Turnips, with manure and sheep folding.	1 Clover, mown once.
2 Part wheat and part barley.	2 Barley.	2 Wheat.
3 Pease and beans.	3 Oats or Barley, with manure, soot, pigeon dung, or lime.	3 Beans.
4 Turnips, with manure and sheep folding.	4 Clover mown once.	4 Fallow, manure and sheep folding.
5 Barley.	5 Wheat.	5 Wheat and barley.
6 Oats or barley, with manure, soot, pigeon dung, or lime.	6 Pease or beans.	6 Pease and beans.
7 Clover, mown once.	7 Fallow, manure, and sheep folding.	7 Turnips and manure, and sheep folding.
8 Wheat.	8 Wheat and barley.	8 Barley.
9 Pease or beans.	9 Pease and beans.	9 Oats or barley, manure, soot, pigeon dung or lime.

N. B. There are three open fields, and the above is one of them divided into three parts; the rotation on the other two fields being the same. Number 6, first column, number 3, second do., and number 9, in third do., are sometimes part in beans.

Oakham, Summer fallow, wheat or barley, beans.

Pickworth, Turnips, barley, seeds two years, being sometimes mown the first year and eaten off the next; pease or barley, or oats; on wood land, wheat, beans, or wheat and seeds, then barley.

Pilton, Turnips, barley, clover, wheat.

Preston, Turnips, barley, seeds one year, sometimes red clover, wheat.

Ridlington, Turnips, barley or oats, red clover, wheat; or rye eaten off with sheep, then turnips.

Gunthorpe, Turnips, barley, seeds two years, or wheat.

It will be observed that the course of crops on the poor limestone, or crech land, is turnips, barley, clover and wheat, which is as far as it can be expected to be carried on under the present management of the dung, which is at present improperly conducted. And though I have experienced the wonderful utility of the improved method, yet, as it is attended with a more early operation, more labour, and some expense, it may be some time ere it be brought into general practice ; or on this thin land it would be found of the highest service, as the farmer would thus be enabled to give the clover a top dressing, thus not only adding to the burthen of that crop, but smothering the land would have the further effect of giving an additional produce in the wheat crop, thereby continually keeping the dunghill encreasing. To this, very probably, some farmers may start the objection, which a very respectable farmer did to me, when on my survey of the county of Buckinghamshire, on my explaining to him the advantage of working up his yard dung into compost, " that, by the rules I was prescribing, it made *more work* ; that he already found it a great expense to cart the dung, and that if he came to have double the quantity it would be worse still." If any method could be hit upon, where the profit came first, and the labour and expense afterwards, no doubt such an one would have many followers ; but I know nothing of this kind ; and though there is now and then a publication issued from the press, setting forth a system of farming without dung, yet we might as well expect horses to do the work of the farm without food, excepting on some small pieces of land, such as are to be found in some of the richest parts of Lincolnshire, where from the astonishing richness of the land, such smothering crops of hemp, wheat and beans are produced, that crops in this course might be grown for a very long time without any aid of manure,

manure; but such instances are rare, and as on the far greater part of the arable land in this kingdom, dung is the main spring on which all other operations must move, it is certainly most essential to raise so much manure as will give a proper proportion to *every other year* to keep the land alive. By the present system under turnips, barley, clover and wheat, the land gets so much reduced from being only dunged once in four years, and then too frequently with a little light strawy sort of dung, which, were a cart load of it reduced into mould, would but consist of about eight bushels, therefore twelve loads would but be ninety-six bushels per acre in four years, when, in the course of that period, by the method I prescribe, 720 bushels of good fertile earth would be laid on the land per acre. The salts would also be retained in a much greater proportion, bushel for bushel, in the latter than in the former; indeed I have some doubts whether any salts remain in the manure at all, under their present management of it. By the new method there would be 12 loads of compost for turnips, then six loads more on the clover, and then, after the wheat crop, from four to six loads of compost applied in the drills to the pease, as I have before described in Chapter IV., Sect. VII. I am very partial to having wheat for the crop preceding turnips, having always found them to be better after a wheat crop than any other; my object is, as I before said, to have only one clover crop in six years, instead of one in four; the pea crop is, therefore, a change, or if *all* the crops could be kept *good*, the four years course would be *as profitable*. It will be observed that, in the six years course, there are 10 straw crops in 12 years, and in the four years but nine; that the former receives dung six times, the latter but three times. It may be here said, perhaps, that the six years course, with respect to the manure, is like a traveller's

baiting his horse before he needs it. In answer to this, I have to say that, when any thing gets low in condition, it takes so much bringing up again, that I am for getting it into condition and keeping it so. On the very thin lands there can be no better method pursued than breaking them up for either pease, oats, or any other grain; it may be more congenial to fallow for turnips, barley, seeds for two years eaten by sheep, and then plough them up again; because, on such land, the feeding off the seeds for two years is as much as it will bear, and, were it to lay any longer, it would not keep much of any thing; on the red land the case is different, for on it grass stands uncommonly well, and Mr. Fludyer shewed me a piece of land of this description with most luxuriant grass upon it, which he observed, "Came in course to be ploughed up next spring, or that it seemed absolutely shameful to take it up." On the clay grounds a much better course might be pursued than is at present, by manuring for beans instead of wheat. I most highly, therefore, recommend the following system to the strong clay-land farmers in this county: manure for the bean crop with 12 cart loads per acre, sow the beans broad cast, hand-hoe them, setting them about four inches asunder, weed them with sheep, after the crop is hoed, winter plough before Christmas, or so as the land gets the frost, and sow the barley on that ploughing, as soon as the crop is weaned from the kernel. I should recommend eating it by sheep, which would make it tiller, more level, or as it is provincially expressed, prevent so many "*men and boys*," and have the further advantage of giving the barley a firmer root, and preventing the growth of small weeds; then on the clover crop lay six loads of compost, mow the clover twice, plough it up and sow the wheat, then give it from 50 to 80 bushels of lime per acre, according to the nature of the land. I have seen this

this method tried with success, not only on clay soils, but on sand land, and even lime tone. During the winter eat the wheat off by sheep, as, from their treading the land, the lime and earth are worked together, the ground weeds are prevented from growing, the roots of the wheat are rendered firm, and prevented from root-welting; it has also a tendency to a prevention of the mildew, and in a degree the ravages of the wire worm and slug. It is understood that this process is on land free from couch-grass, or, if not, a spring fallow must be had recourse to for the barley. This process will be found to be much more profitable than the present system, which has been already shewn under the head EXPENSES AND PROFIT, CHAP. IV. SECT. VII. The land always producing a proper quantity of dung for its various purposes, without purchasing, as will be found described more at large under the head MANURES.

Mr. Hinton has been very successful in having good crops, from management which I have always considered improper on any land, and particularly on such dry soil as his farm consists of. The course of crops as follows: 1st. oats; 2d. oats; 3d turnips; 4th. barley, ray grass and small seeds for four years, eaten off by sheep, cattle, and horses; then to plough up again and return to oats for two crops, &c. The two white crops together are what I particularly object to; after the two crops of oats he fallows and applies from 80 to 120 bushels of lime, and from 15 to 20 loads (cart loads) of fold dung of rather a light and strawy nature, per acre, which is too much dung at once, then sows turnips, then barley, &c. as before. I am ready to allow, that better farming in this way, in my opinion, was never seen, there being scarcely a blade of couch-grass to be found on the whole farm; he never had, before this year, (1806) any failing crops, or indeed, from what I could learn in his parish, even any partial failures, but this year his crops have nearly all failed. I am the mor

particular in noticing this circumstance, in order to shew that, even on the most fertile soils, where the land is light, it is almost an impossibility to raise two white crops together for any length of time, and to keep the land properly productive. I had frequent conversations with Lord Winchelsea (previous to having the honour to survey this county) with respect to farming, and having always signified that I was inimical to taking two white crops together, his lordship used always to combat my arguments with citing Mr. Hinton's process as a fact directly contrary to my opinion. On my arrival at Burley I was, therefore, naturally anxious to see Mr. Hinton's farm; soon after my arrival Mr. Wilson, his lordship's steward, had the goodness to go with me there. Mr. Hinton very readily shewed us over his farm; the only thing I particularly noticed this time was a turnip crop, which had been sown some time, and had arrived at a state nearly ready for hoeing, when the greater part of it had declined in such a manner as not to be worth hoeing; the cause of this it was alledged was, that the wire-worm and the rooks had destroyed the plants; upon carefully examining the roots of the turnip plant which were left, (which had a dying appearance) we found at many of them from three to six small white worms, having many feet, a small quantity of red worms, much of the same shape and size, and some small red worms, having the likeness of earth worms; but I believe they were of another species, as earth worms are not generally found in soil of this dry nature, but in moist and rich places, under stones, &c.; there were also some grubs. The ploughs being at work, in order to sow turnips a second time, gave every opportunity of discovering the quantity and species of worms, &c. At the corners of the field and the headland, there were several spots of turnips looking fruitful, and very particularly from

from the gate at the entrance of the field, in a line striking across every land from one corner to the other of it, about ten yards in width, there was a very productive crop, which had been hoed, and looked very fine ; and also on a broad space spreading in different directions, near the gate, but for no great distance, the turnip plants were very fine : upon enquiry we were informed that across the field, where the turnip plants were good, there had been a cart and riding way for the four years it had been pastured, and where the broad space was, that there had been a dunghill ; upon this we examined the earth on these two places, but did not even find one of those worms or grubs, which had been so very destructive to the other ; this will appear the more remarkable, when it is recollected that, on each side of this part, which had been a cart-way, the worms and grubs were very numerous, and not a plant left ; as there were several parts on the headlands where there were turnip plants healthy, though not so good as those just mentioned, we examined the earth there, and found some worms, &c. though not so numerous at that time as to destroy the plants entirely. I then viewed the oat crops, but did not go into them ; I found that the *second year's* crop of oats was much worse and fuller of weeds than the first year's, sown after the seeds. Having an opportunity, some days after, with Mr. Hinton's leave, I viewed the crops again ; I now found the field, which was to have been the second year's crop of oats, in many parts for several acres successively to be a continued crop of sow thistles, and variety of ground weeds, &c. all which had the most luxuriant appearance, particularly the sow thistles, being from three to four feet in height, and all in seed, and scarcely a stem of oats to be seen amongst them ; on some other parts neither weeds nor oats growing ; I scarcely saw one blade of couch grass in any of the fields.

I wish to remark this, to shew that Mr. Hinton was a clean farmer, and, from his success for twenty years together, must have the reputation of being a good farmer, although far from scientific, not having the remotest idea of the cause of the present failure of his crops, except that it had been caused by the worm or grub; on examining the earth in the oat fields I found no worms, but where no plants were produced, the earth felt dry and warm, and hung together like chopped hay. I found amongst it many fibres of the roots of grass, oats and stubble undecayed. It will here be necessary to remark, that the season had not been particularly dry, sufficient rains having fallen to give verdure to grass seeds on the farm, and to make the natural pastures wear a luxuriant appearance; also on land of the same nature, in Burley Park, there were as fine crops of both Swedish and Norfolk white turnips as could grow; and also on the land which had been trodden, already mentioned on Mr. Hinton's farm, the turnips were very luxuriant. But to return to the oat crop, in one part of the field there was a hollow part near to a run of water, over which there was a bridge, and on this part, owing to the horses, cattle, and sheep, having walked by the side of the water to pass over by the bridge, there was a good crop of oats; also near the entrance gate, where the horses, &c. had resorted much, and thence across the field over the bridge to another field, where, when in grass seeds, there had been a road much frequented by the farm servants going to and fro, and by cattle, &c. for about three or four feet in width, or the breadth of a swathe of oats, the crop was good and free from weeds, but on each side nothing but weeds were produced. The barley crops were strong, and had a good long ear, having been turnips eaten off by sheep the preceding year, but were very full of ground weeds, such as willow

willow weed, &c. &c. These different views were taken during my Lord Winchelsea's absence; on his coming from London, and making enquiry of Mr. Wilson of the state of the crops, his lordship was astonished to hear so unfavourable an account. His lordship taking me along with him to view them, found the crops as bad as had been represented to him; and on our arrival at Mr. Hinton's, his lordship questioned him as to the cause. Mr. H. quickly replied, "He did not know, nor yet how to remedy such a misfortune, for his oat crops having failed, he was pretty sure that his next year's turnips would also, and after that his barley, &c." In these remarks, if the present system be pursued, I think him very right. The business of my survey taking me from Burley at this time for about three weeks; when having returned, I went to view the second sowed crop of turnips, which, as was my full expectation, had again totally failed, though there had been proper rains to make the seed spring up, and the plants had come up in due time, and were very regular; yet instead of going forwards to a size fit for hoeing, they had all regularly declined, there being at the time I now speak of, nine-tenths dead; on examining the earth, no worms were found at the roots as before.

Having thus gone over Mr. Hinton's management and its failure, it remains for me to give an opinion on what method ought to be pursued to render the land as productive as usual, or more so. I consider the following process, which I gave to Earl Winchelsea, when at Burley, to be capable of effecting this desirable purpose.

When the seeds had been eaten two years and a half, at Michaelmas or Martinmas twelvemonths, before the sward was intended to be broken up, 80 bushels of lime per acre should be applied; it may not be of material consequence whether in a slacked state or not; but I should prefer

having lime hot from the kiln, and have some clay ready to put over it, or amongst it, not letting it remain in that state more than a week, but cart it on to the land, spreading it well and carefully, so that every part receives its just proportion; then continue to pasture the seeds all that winter and the summer following; and in the succeeding winter, during the months of November and December, fodder cattle on different parts of the fields, so as to give them a proper and equal treading. There being but little exhalation at this season, the dung and urine would be of great service. Then take and carefully rake up all the refuse straw from the land, and cart it into the fold-yard, on no account ploughing any part of this refuse stuff into the land; for it being already too light, every thing that tends to making it lighter, should necessarily be avoided; after the ploughing, sow oats as usual, eating them off by sheep when in the blade, and rolling them. When the oat crop was off, then immediately scarify the land, harrowing all the refuse stuff up; and if the season should permit, burn it on the land, if not, cart it away into the fold-yard, &c. then scarify again, and sow cole-seed, harrowing it into the ground, then the oats, which had shelled in harvest, would spring up with it. At a proper time, eat the crop off with sheep, or if in part by cattle, so much the better. This being done, fallow for turnips, ploughing the land as deep, or even deeper than the staple will admit, and into small square furrows, in such a way as to keep it close and dry. In the spring, scarify as deep as the plough had gone, if it seems to go easy, and does no injury to the horses, or has little or no couch-grass in the soil; if it has couch-grass in it, by all means plough a second time, it being highly improper to use a scarifier, when the couch-grass is fast in the land, as it breaks it in short pieces, thereby, not only causing it to be difficult to get out, but planting it

fifty

fifty fold thicker than before; then harrow, rake up, and burn or take off all the refuse stuff, by no means omitting this after every operation. In the second ploughing and harrowing, keep in the very same seams as in the first ploughing, &c. by no means crossing the lands, for if this be done, the necessary intended operation by the scarifier will be prevented. By cross ploughing, the sods are cut into square furrows, and roll about in such a manner, as to clog the scarifier, and prevent its teeth from drawing through them; the sods are thus drawn up in such heaps, that neither harrows or any thing else can work the land properly. All this ought to be done as early in the season as possible; and the land being got into a pulverized state, and all the couch-grass got out, roll the land, and let it lay in that state until the time of sowing. Having in the early part of the winter prepared some compost dung, consisting of some clayey substance, of as a wet a nature as could be found on the farm, intermixed amongst, about one third long straw dung in its raw state, as directed in *The Experienced Farmer*, edit. 3. vol. 1. pages 178 to 223, lay on from 12 to 15 loads per acre; then sow turnips and cole, hoeing and eating off the weeds, as directed in *Experienced Farmer*, edit. 3. vol. 1. pages 413 to 434; that done, plough thin for barley, and sow clover, eating off the barley by sheep, as directed on the wheats, *Experienced Farmer*, edit. 3. vol. 1. pages 373 to 384; and also very fully explained in *The English Farmer in Ireland*, pages 69 to 72. The barley crop being got off, having some compost ready of the same nature as that applied for the turnips, lay on six cart loads per acre, and either mow the clover twice, or eat it off by sheep; it is hard to say which is best upon this dry light land, but I rather think mowing; then sow wheat on the clover lea, and when it is up, lay on a top dressing of from 60 to 80 bushels of lime per acre, treading

ing the wheat by sheep, &c. (previous to sowing the wheat, let the land lay from 14 to 20 days) early in the spring, eat the wheat off by sheep; the wheat crop being off, collect the stubble, and lead it off; then scarify and harrow the land, burning or carrying off all the refuse stuff; then make drills for the pea crop, as directed, Experienced Farmer, edit. 3. vol. 1. pages 325 to 333; that being done, as the pea crop would be off very early, scarify the land as directed above, applying four or six loads of compost; and sow cole-seed or turnips on both, and after them, sow barley and small seeds for pasture for four years, as is now practised. I am confident that success would attend this process, it appearing very evident by that, the land only wants a different course, and rendering more coherent, which would be fully effected by the treading only. That the land is not wanting in capability of producing crops when properly used, is apparent from the weeds now produced being so strong, especially the sow-thistle, which is a very strong stemmed plant; and from the oats and turnips, which I have stated to be produced on some parts, where cattle, &c. had trod, being a very good crop, it may be naturally deduced, that had the remainder of those lands being served in like manner, that they would have brought crops equally good, and that neither weeds nor grubs, &c. would have been found.

At Hatfield, in Yorkshire, I have observed an instance in point, in support of my foregoing assertions; the soil there is of a very light sandy nature, yet by the judicious use of lime, together with treading the land, to which I attribute the greater part of the service, there are not for quantity and quality, more productive fields in England. The parish being uninclosed, they have four fields, one of which was turnips, dunged; a second barley; a third clover; and a fourth wheat; on the latter, the best managers
always

always laid a top dressing of lime, so that the land had successively and regularly dung once in four years, and lime once in like manner. The turnips were always eaten off by very great numbers of cattle and sheep, for having large commons, where great quantities of cattle and sheep were raised, it used to be a practice to first bring all the cattle from the commons, and turn them on the turnip field, where after they had remained a certain time, so as to have eaten off the best of the turnips, then the sheep were brought to eat up what remained; thus, from the treading of the cattle and sheep together, with the mixture of their urine, dung, and lime, the land was rendered coherent, and their crops never failed. Mr. Hinton's success on his injudicious course of crops, I have no doubt was produced by the eating the seeds with sheep for four years. These instances have more than ever convinced me of the truth of Lord Dundonald's observation of land needing chemical assistance. The old farmer will always observe on such occasions, that the land is *tired* and wants rest; so far he is right, there being no doubt but time would bring the land round to its usual productiveness; but I think I can safely assert, that there is no occasion for this giving of time; give the land proper chemical aid, and it will produce more profitable crops, and of course be in better heart or condition than it ever was before. The disorder and its causes being fairly discovered, and a cure for it almost at the same time, the completion of the cure and the preventive to a recurrence of the disease, are not very hard. These discoveries very strongly substantiate to me, what I have long had an idea of, that the failure of all crops, as well as the diseases or maladies attendant upon them, are in the soil; but of this more, when I come to speak of the **TURNIP CROP**, **SECT. XIII.** of this present chapter.

SECT. IV.—CORN, SEED, AND PRODUCE.

Parishes.	Wheat per Acre.		Rye per Acre.		Barley per Acre.		Oats per Acre.		Peas per Acre.	
	Seed. Bushels.	Produce. Bushels.	Seed. Bushels.	Produce. Bushels.	Seed. Bushels.	Produce. Bushels.	Seed. Bushels.	Produce. Bushels.	Seed. Bushels.	Produce. Bushels.
Ashwell	3	24			3	40	6	43	3½	18
Ayston			3	48	3	48	6	64		
Barleythorpe	3	28	5	40	5	56	4		4	28
Barrowden	2½	12	4	24					5	12
Beiton	3	24	4	24					6	24
Bishbrooke	4	24	4	32	4	40	7	40		
Bridgo Casterton	3	16	4	28	4	28	6	30		
Braunston	3	20	4	28	4	28	7	23	16	
Brooke	2½	28	4	40	4	40	8	56	23	24
Burley	2½	28	4	40	4	40	5	68	3	32
Caldecot	3	28	4	28	4	28	5	32	4	32
Clipsham	3	20	4	28	4	28			4	32
Cottemore	3	24	4½	28	4½	40	5	40		
Edithweston	3	24	4½	32	4½	40	7	40		
Egleton	5	20	4	32	4	32				
Empingham	3	24	4	32	4	32	4	40	4	24
Fasendine	3	16	4	24	4	24	5	24	5	16
Exton	2½	24	4	24	4	24	5	24	5	24
Glaysstone	3	28	4	32	4	32	4	40		
Greatham	3	18	4	28	4	28	5½	32		
Humbleton	3	26	4	32	4	32	5	56		
Ketton	3	16	4	24	4	24	6	32	4	12
Langhara	2½	22	4	48	4	48	5	64	6	16
Leafields	3	20	4	28	4	28				
Little Casterton	3	23	4	32	4	32			4	20
Lyddington	3	26	4	56	4	40	6	72	5	24
Lydden			4	48	4	48	4	64	6	32

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SECT. V.—SEEDS, OR ARTIFICIAL GRASSES.

AYSTON, white clover and ray grass for eating off. Ashwell, red clover for scythe, white clover, and a very little ray grass for pasture. Barleythorpe, red clover, and mown once. Barrow, red and white clover, trefoil; ray grass, mown the first year, and for pasture the second; but if sown with red clover, it is then mown once, depastured, and then ploughed up for wheat. Barrowden, red clover, mown. Belton, red and white clover and ray grass for pasture. Bishbrooke, red and white clover and ray grass, either mown or depastured. Bridge Casterton, red and white clover, ray grass, and trefoil, mown the first year, for pasture the second. Braunston, red clover, mown; white clover, ray grass, and trefoil, either mown or eaten. Brooke, red and white clover, mown, and then eaten off. Burley, red and white clover and ray grass, mown, and then eaten off. Caldecot, red clover, mown. Clipsham, red clover and ray grass, first mown, then eaten off. Cottesmore, red and white clover, trefoil, and ray grass, mown the first year, and pastured the next; if sown with red clover only, then mown and sown with wheat. Edithweston, red clover, mown; sainfoin, 100 acres mown. Egleton, red clover, white clover, and trefoil, mown; sow 14 lb. per acre. Eppingham, here they sow 8 lb. of red clover, 4 lb. of white ditto, 2 lb. of trefoil, and one bushel of ray grass per acre, which is mown the first year, and for pasture the second; 50 acres of sainfoin, mown. Essendine, red and white clover, trefoil, ray grass, mown one year, and pasture the next. Exton, red and white clover, trefoil, ray grass, very little of the latter mown the first year, and for pasture after. Glayston, red and white clover, mown. Greetham, red and white clover; trefoil, ray grass, mown for

for hay, some cut for soiling; sainfoin; sow 12 lb. of red and white clover, one bushel of trefoil in the husk, one bushel of ray grass, and five bushels of sainfoin per acre. Gunthorpe, red and white clover, trefoil, ray grass, for pasture, for two years. Hambleton, red and white clover; ray grass, mown and pastured after. Ketton, red clover; ray grass, some little mown, but mostly eaten for one or two years. Langham, red and white clover, 7 lb. of each sown per acre; ray grass for pasture, half a bushel per acre. Leafields, red clover, mown. Little Casterton, red and white clover, trefoil, ray grass, mown the first year, for pasture the second. Lyddington, red clover, mown and pastured; white clover, trefoil, and ray grass, for pasture. Lynden, red and white clover, mown. Manton, red clover, mown twice; red and white clover, trefoil, and ray grass, for pasture. Market Overton, red clover; small quantity of ray grass, mown. Morcot, red clover, mown. Normanton, red and white clover, trefoil, and ray grass, mown. North Luffenham, red clover, 10 lb. per acre, and 5 lb. of trefoil per acre, mown once, and then eaten off by sheep. Pickworth, red and white clover, mown the first year, and for pasture the second. Pilton, red clover, mown. Preston, white clover, ray grass, respecting which a difference of opinion prevails, some thinking it best method to mow it; others are for the pasturing. Ridlington, red clover, mown. Ryall, red and white clover, ray grass, trefoil, mown the first year, for pasture the second; and sainfoin. Seaton, red clover, mown. South Luffenham, red clover, mown, and then eaten by sheep. Stretton, red clover, mown. Teigh, red clover, sometimes mown, and sometimes pastured. Tickencote, red clover, 18 lb. per acre, mown; 14 lb. of white clover and one peck of ray grass, for pasture. Thistleton, red and white clover, trefoil, and a little ray grass, for pasture chiefly,

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though

though some small quantity is mown; sainfoin flourishes very much in this parish. Thorpe, red clover, mown. Tinwell, red and white clover and ray grass, mown once, and pastured afterwards. Tixover, red and white clover, and a small quantity of ray grass; part mown, and part eaten. Uppingham, red clover, mown. Wing, red clover, mown. Wissendine, red and white clover; ray grass, mown, and then eaten off. Witwell, red and white clover, some mown, and some pastured.

SECT. VI.—WHEAT.

1. PREPARATIONS, by two or three ploughings. 2. Manure, with yard, dung, and some lime. 3. Season, in October. 4. Putting in, by the plough on fallows, by one ploughing, and the seed harrowed in on clover leas. 5. Seed, (SEE THE TABLE, PAGE 63). 6. Steeping, in brine strong enough to bear an egg; by some only in pure water, merely as a washing. 7. Sort, Red Lammas. 8. Depth, from $3\frac{1}{2}$ to 4 inches. 9. Drilling, not a practice. 10. Dibbling, not practised, except by Lord Winchelsea. 11. Water furrowing, nothing particular as to system, but generally practised. 12. Hoeing, by the horse hoe, but only by Lord Winchelsea. 13. Feeding, some little eaten off by sheep. 14. Reaping, &c. by the sickle; shocked, but not capped. 15. Distempers; but very little affected by the mildew this season; by the smutt, a great many crops; by burnt and red gum, none; cockle eared and root fallen very little. 16. Stacking; common methods in long and round stacks, foundations on timber, or stone pillars and caps. 17. Threshing, by the flail. 18. Price, 75s. to 84s. per quarter. 19. Grinding, paid by toll, at the rate of

of 2 in 24, for grinding, cadging, and carrying. 20. Bread, nothing worthy of observation. 21. Stubbles, these are mown, by some for thatch, others for litter; and by some farmers are not mown at all.

SECT. VII.—RYE.

NONE sown in the county this year, 1806, except two acres by Earl Winchelsea.

SECT. VIII.—BARLEY,

Is ploughed once, harrowed, and rolled. 1. Put in without ploughing, none; and none scarified. 2. Manuring, none applied to this crop. 3. Drilling, only practised by Mr. Wright, of Pickworth, whose crops were very thin. 4. Time, in April. 5. Sort, long eared, a little of the sprat, and a small quantity of big of the four sided kind; some barley sown by Earl Winchelsea for the winter, for sheep-feed during that season; and some (one acre) eaten off by way of an experiment, as late as May, which proved as good a crop as that from whence the sheep were taken off a month earlier, only later in harvest. 6. Seed. (SEE THE TABLE, PAGE 62). 7. Depth, one inch and a half. 8. Rolling, by the common wood rollers. 9. Harvesting, mown and cocked. 10. Produce. (SEE THE TABLE, PAGE 62). 11. Straw, given to cattle in the winter. 12. Awns, broke off by some only with the flail, by others with an iron chopper, which process is termed faltering. 13. Malt, made as by act of parliament directed. 14. Price, of barley, per quarter, 38s. to 42s.

of malt, 74s. 15. Bread, raised with yeast, salt, &c. and laid in sponge. It is a practice to eat off turnips very late, so that barley and seeds are not sown often until May; this is a very bad practice: indeed all their harvests here are later than in the counties both north and south of them, which in a great measure is to be attributed to the very late sowing.

SECT IX.—OATS.

As to tillage, the ground is ploughed once, harrowed, and rolled; no seed put in without ploughing, nor any land scarified. 2. Manuring, little or none applied. 3 and 4. Drilling and dibbling, none. 5. Time, from the beginning of February to the end of April. 6. Sort, potatoe, Irish blue, Poland, and short smalls. 7. Seed. (SEE THE TABLE, PAGE 62). 8. Depth; one inch and a half. 9. Rolling, same as in the barley. 10. Weeding, by the spud or hook. 11. Harvesting, mown and cocked into small heaps, of about a fork full. 13. Straw, eaten by cattle in the winter. 14. Application, chiefly given to horses and cattle; none made into bread, but small part manufactured into oatmeal for domestic uses. 15. Price, 30s. per quarter.

SECT. X.—PEAS.

1. **TILLAGE**, ploughed once, harrowed to a fine mould, but very seldom rolled, though a good method at this time; none put in without ploughing, nor any scarifying or manuring. 2. Drilling, by very few. 3. Dibbling, very seldom

seldom done. 4. Time, from February to the end of April. 5. Sort, the Marlborough and common gray; Lord Winchelsea has tried the pearl, or black eyed pea, and found it to answer well; and also another kind of white pea, a good looking pea, recommended by a seedsman; but the crop was not so good, nor was it so early in harvest. 6. Seed, (SEE THE TABLE, PAGE 62). 7. Depth, one inch and a half. 8. Rolling, none. 9. Podding, for market, none. 10. Hoeing, none practised but by Lord Winchelsea, who uses the horse hoe. 11. Weeding, by the spud. 12. Harvesting, mown, and put into small heaps, about half a fork full in each heap. 13. Produce, (SEE THE TABLE, PAGE 62). 14. Straw, eaten by horses and cattle. 15. Application, for fattening pigs. 16. Stubbles, none left but the weeds, scattered peas, &c. eaten by sheep and pigs. 17. Price, none quoted. 18. Bread, none made of this grain in this county.

SECT. XI.—BEANS.

1. SOIL, chiefly clay. 2. Tillage, ploughed once, harrowed to a fine mould; rolling seldom done, though beneficial, without ploughing, none; scarifying, none practised. 3. Manuring, seldom any applied, though it would be much better to apply it on this crop, than (as is practised at present) on the fallow. 4. Drilling, by very few. 5. Dibbling, not much practised. 6. Time, February. 7. Sort, large horse and pigeon. 8. Seed, (SEE THE TABLE, PAGE 62). 9. Depth, when harrowed, in one inch and a half; when ploughed, in three inches, and sometimes deeper. 10. Rolling, none. 11. Harrowing, none. 12. Horse hoeing, none. 13. Hand hoeing, some little.

14. Weeding, by the spud and hook; some little by sheep.
 15. Distempers, the black fly and green louse. 16. Cutting green, some done, and said to answer well. 17. Harvesting, mown and cocked. 18. Produce, (SEE THE TABLE, PAGE 62). 20. Application, for sale, pigs, horses, &c. 21. Stubbles, sheep turned on them, 22. Price, 42s. to 52s. per quarter. 23. How used as food, no way that I could hear of.

SECT. XII.—TARES,

WITH what view sown. 1. For seed, but few. 2. Hay, very few. 3. For soiling, greater part of what are sown are applied to this purpose. 4. For feeding, none.

For Seed.—1. Tillage, ploughed once, harrowed to cover the seed; rolling, but very little, or none, though a good practice; without ploughing, none, and no scarifying. 2. Manuring, seldom or never applied, though very proper. 3. Drilling, none; but the tares ought to be drilled as directed in Experienced Farmer, edit. 3. pages 325 to 333; and dung applied, or compost, as there directed in pages 334 to 338. 4. Dibbling, none. 5. Time, October, February, March, and April. 6. Sort, winter and spring. 7. Depth, one inch and a half. 8. Rolling, none. 9. Weeding, spud and hook. 10. Harvesting, mown and cocked. 11. Produce, 12 to 20 bushels per acre. 12. Straw, eaten by cattle and horses. 13. Application, chiefly, for sale. 14. Price, 32s. to 40s. and very fine 56s. per quarter.

For Hay.—1. Time of mowing, when in blossom. 2. Making, same process as grass. 3. Stacking, the same as other hay. 4. Salting, never done. 5. Application, given

given to horses, cattle, &c. value about 4l. per acre.
6. Stubbles, sheep turned upon them.

For Soiling.—1. Time of mowing, as soon as they are ready to blossom, and continue until they are in pod, when horses like them better; but cattle do not. 2. Stock, to which given, to horses chiefly; by Earl Winchelsea, to oxen. 3. Advantages, very numerous. By stall-feeding the working horses, a great deal of time is saved both by the working men and the horses, and the latter always ready for use. A great quantity of manure raised for the use of the farm; and upon necessity, the land on which they were grown may be sown with turnips, though I have never found the crop so good as when sown after a complete fallow. 4. Value per acre; this is scarcely to be estimated. I have known twenty horses kept for three months on six acres; supposing therefore the keep of a horse to be worth 3s. per week, this for 13 weeks will be 39l. or 6l. 10s. per acre. Plenty of litter being given to the horses, from the juicy nature of the tares, there is no doubt but 100 loads of manure would be raised, which, at 5s. per load, is 25l. more, making in the whole 10l. 13s. 4d. per acre. 6. Stubble, ploughed up for turnips, sometimes for wheat.

SECT. XIII.—LENTILS.

1. SOIL, creech, or lime-stone land. 2. Tillage, ploughed once, and harrowed to cover the seed. 3. Time, March or April. 4. Seed, two bushels per acre. 5. Application, for sheep, food in winter esteemed very much. This crop is by no means a general one in this county, being used by only two or three farmers in it; from their

report, and its being, though a small stemmed plant, a very smothering crop, it is well worth the farmer's notice, independent of its very great use as winter food for sheep.

SECT. XIV.—BUCK-WHEAT.

THIS is not commonly cultivated, having seen none but at Burley. 1. Soil, red land. 2. Tillage, ploughed and harrowed. 3. Time, first week in June. 4. Seed, two bushels per acre. 5. Harvest, mown and put into small cocks; the time of harvesting being generally about the last week in September, or first week in October; in stacking of it, to prevent its heating, the best method is to put layers of wheat-straw into the stack. 6. Application, for pheasants.

SECT. XV.—TURNIPS.

1. SOIL, red or keal land, lime-stone or crech land. 2. Tillage, ploughed three or four times, harrowed and rolled. 3. Manuring, chiefly by yard-dung, in rather a long light state, 12 to 20 loads per acre; and lime on the red or keal lands, but not approved of on lime-stone land. 4. Time, July. 5. Drilling, only practised by Earl Winchelsea, whose crop was beautiful. 6. Sort, white Norfolk taukard. 7. Seed, $2\frac{1}{2}$ lb. per acre. 8. Rolling, by a plain wooden roll. 9. Harrowing, none. 10. Fly preventatives, none particularly used. 11. Hoeing, done by hand two or three times over.

SECT.

SECT. XVI.—CONSUMPTION.

CHIEFLY by sheep; 1st. drawn; some few; 2d. fed on the land. This practice chiefly followed. 3d. Hurdling, common to all parts of the county. The hurdles being made with oak heads and ledges; the head having sharp points to fix in the ground; the ledges are generally four, with one bar across; but the hurdles which have but one bar, are not approved of so much as those made with two, and the difference of expense is so very trifling, as not to be any object. 4th. Expense. The hurdles cost about 21s. per dozen. 5th. Effect. The effects of folding by means of hurdles, are very many, and highly beneficial. More sheep are kept, and much better, than by other methods; for by folding, the fattening sheep being folded on the turnips first, and the store-sheep following them, both flocks are kept more regular and more healthy; as the first flock living, as it were, always at high table, will not, when let on a fresh fold, overgorge themselves, thereby remedying the cause of the resp, or red water, which is occasioned by keeping sheep in the fold for the latter part of the time, in a very scanty way, that they may eat up all the dragged turnips, roots, &c. clean; thus, when put on a fresh fold, they naturally eat so voraciously as to cause the resp; but by putting on the store-sheep to the turnips that the fattening sheep have left, this evil is avoided; more sheep are also kept per acre, and much better in every respect. The store-sheep not having been used to the better sort of turnip, will eat up clean all the refuse and the worst kind of turnips; there being a great difference in the quality of turnips, even in one field; some being much more gratifying to the sheep than others, and much

much more fattening. There have been many trials made to fatten sheep by carrying the turnips off the land, and giving to them on grass land; but it has not been found to answer. Turnips, when fast in the ground, are in a better position, and, of course, more firm to the bite of the sheep, and are thus nearly scooped out, 'ere they are dragged and given to the incoming store-sheep. By the turnips being thrown into a cart promiscuously, they are all daubed with dirt, and are by no means so fresh and pleasant to the sheep as they are whilst growing in the field. For as gooseberries are more pleasant to the palate, when gathered one at a time from the tree; so it is with turnips to sheep. And a grazier or feeder of sheep, &c. cannot attend too minutely to such circumstances. Another reason why turnips, when carted off the land, do not answer is, that when taken and spread on grass land, they (the sheep) have no fresh supply until every turnip is eaten up; and, although there shall appear to be no difference in the turnips, yet those which the sheep refuse, it is certain, are not of a fattening quality, but hunger obliges them to eat them. It is, therefore, obvious that fattening cattle or sheep ought not to be kept in this way, but should be followed by the stores. As thus, a very great waste of both time and money would be avoided, and both flocks be kept much better: for it is probable, that during the time the fattening flock is thus kept upon what they at first refused, that they are upon the shrink; therefore the refuse had even better been wasted entirely than thus managed. And, in fact, where the system of folding is pursued with but one flock, much waste is committed, for a custom prevails, that as soon as the first fold of turnips is eaten low, and the best part of them picked out, then a fresh fold is given to the sheep, as soon as this second fold is eaten down similar to the former one; then the

the turnips which remained in the first fold are dragged up; the sheep will now fall back, and eat part of those draggings; but the remains of those turnips are then got into such a state, that no sheep will touch them: whereas, had there been a following flock to have been put on immediately as the other left them, there would have been no waste. A good crop of turnips keeps such a number of sheep for so long a time, that with but one flock and one fold it is impossible to make the best use of them, for before the whole can be taken off with one fold, the ground will absolutely stink of the sheep; and a *fattening* sheep, under such circumstances, will refuse to take a proper quantity of food to keep him in a progressive state of improvement. When it is considered, that instances have occurred of a fat sheep having laid under a snow-rick for 21 days, and when taken out, has appeared strong and healthy, and ran into the flock as though nothing had happened, it will not appear very extraordinary, that a sheep should refrain from food which he is surfeited of, so long as to cause him not only not to be in a state of improvement, but absolutely to be declining. Another advantage in the two folds is, that the land gets more dung by the turnips being thus all properly eaten up. I think the pulling up and carrying off turnips from land is a very bad practice, because it creates two unnecessary expenses, the carrying off, and the bringing back again the dung, which would otherwise be made and left on the land. Cutting turnips for animals is another bad plan; for by their being thus cut into small pieces, animals are very apt to swallow them whole, when the great art in feeding animals is so to prepare their food as to cause them to masticate it, as the greatest part of the fattening quality of food is taken in by the glands of the mouth. The only objection to the plan of having two folds is, that it requires a double quantity

tity of hurdles; but the advantages in keeping more sheep, and those better, will be an ample remuneration.—13th. Value per acre from £.3 to £.4. But as I have before observed, it is nearly impossible to give the value of this crop, particularly on the creach soil in this county; for if a good crop of turnips be raised, there is then a certainty of a good crop of barley; for, in addition to the manure laid on the land to produce the turnips, the sheep being folded on them, leave another dressing, in all probability, equal to that laid on, and the straw of the barley being carefully used, and converted into manure, is the occasion of another good crop on some other land, so that the turnip crop is, as it were, the king of that kind of soil; for, should there be a failure of the turnip crop, there is almost a certainty of a failure throughout the whole course of crops; it therefore highly behoves the farmer to pay every attention in the culture of this plant. 14th. Modes of preservation. None.

With respect to the fly in turnips, it being impossible to destroy the fly, or if it were possible, it could not be done until too late; therefore, the desirable object is so to cultivate and prepare the land, as to render it unfit for the reception of the eggs of the insect. In a very ingenious publication, called *Observations respecting the Grub*, printed for Mr. Harding, St. James's-street; and which I recommend to the perusal of those who may not already have so done. The fly called father long legs, tom taylor, &c. is proved to be the parent of those destructive reptiles, called grubs, which afterwards become the abovementioned species of fly. In discoursing with a gentleman at Northampton, a very well informed man keeping a large academy there; our discourse turned upon the subject of insects, &c. destroying useful plants. He observed, that having a large garden for the use of his house,
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he had frequently had two plots of turnips sown on the same day, and with the same seed, and the plots not more than from five to ten yards asunder, yet that one of them should be totally destroyed by the fly, and the other, a very fine crop, and quite unmolested. His opinion coincided with my own, that one of those pieces of land had, from some proceeding previous to the sowing of the seed, been adapted to the reception of the eggs of the fly, which he recollected to have been very busily employed, bending its long tail towards the ground, as though depositing something. The sort of fly, from the description given of it by this gentleman, was the same mentioned by the author of "Observations on the Grub." Combining this gentleman's observations in his garden with my own on the turnip crop, &c. at Mr. Hinton's, I have no doubt but the fly is absolutely brought, or, as it were, *invited* to land by the use of *improper* manure, and an improper method of cultivation. In the first place, then it appears plainly, that any method which causes the plant to grow the quickest, is the most likely to tend to a prevention, and that making land firm and solid, will prevent the fly from depositing her eggs, as Nature has taught her to deposit them only on dry, loose, and light soil. Therefore, as early in the Spring as possible, proceed to get the land free from all the couch grass roots, pulverising the soil, and rolling it well down; then let it lay in a quiet state, until the time of sowing the turnips. If ground weeds grow in this space of time, the greater the quantity the better, for it will be a real advantage, by keeping the moisture in the soil, and being the utter destruction of the weeds. Then a few days before the plough enters, run the land over with the scarifier, letting the weeds wither and die. After the ploughing, manure with *compost*, which, when spread, harrow together with the moulds very fine, as thus, the compost and

and land being both moist, are so worked together, that every turnip plant receives an equal proportion of benefit, and being thus applied to the tender fibres of the young plant, cause it to grow very rapidly. 'The very contrary of all this' is the consequence of the present method, for by the repeated ploughings previous to the sowing, the soil has been so frequently turned over, and exposed to the sun and wind, as to be totally divested of moisture. Instead of the weeds being destroyed, they are, by being prevented from growing at this season, preserved to grow up along with the turnips. Then, by manuring with long dung, the ploughing trails along the dung into large lumps, the harrowing drags great part of the manure to the top of the land, where the salts are completely exhaled from it; and it is left little better than old dry thatch. Even great part of the dung which is covered, is covered so slightly with earth, that though the turnip seed grows, yet, in a certain time, it must die for want of *depth of support*. I can, in short, look upon land thus managed and thus manured, in no other light than as a nursery for the fly, its eggs and grubs; and as much pains taken for this end, as those do who raise silk worms. I have no hesitation in asserting, that were a field managed land for land alternately, one in the way I have laid down, and another as is now practised, that the former should receive no injury from the fly, &c. and that the latter should be totally destroyed. I had a striking instance of this nature in Ireland; the field had all been prepared alike, and all but about half an acre, spread over with compost; the half acre was dunged with long dung, and on this part the fly totally destroyed many of the plants in their young state, whilst on the remainder of the field there was not a single instance of the fly injuring the plants. With respect to rooks, and the question whether they destroy the turnips, there.

there can be no hesitation in saying that they do not; for, that this plant is not their food needs no other refutation, than simply observing that the plant, though pulled up, is always left; it may also be observed, that such plants are always of a poor bad nature; this is caused by the grub, or worm, and this is it which causes the rook to pull up the plant as the grub lies at the root of the turnip plant, and the plant would have soon died, had it not been pulled up by the rook.

During the time I was in the county of Rutland, I took great notice of a very luxuriant crop of turnips, expecting the crop would go off by a disease called fingers and toes; the first symptom of this disease is to be observed on a hot sunny day, long before it becomes general. On such a day, being riding past the turnips, I perceived that on a small quantity of the turnips the leaves began to droop; this is the first perceivable symptom of the disease. On information being given to the farmer who owned the turnips, of the disaster which was likely to happen to him on this crop, he was surprised, but, on examination, found it too true. He, being a very clean, good farmer, had begun to pull out the yellow golding, fat hen, &c. with which the land abounded; for though the land had been very correctly hoed, yet the weeds having been buried when the ploughing was done, *in a green state*, and being now underneath the turnips, caused the land to lie light and dry, by which the turnips turned to fingers and toes, and then died off, when the weeds began to sprout up in all directions. This disease being but little known in many parts, it may be necessary to say something of it. It very frequently happens on land that is good for seed, and very often good land, but light; in this county it is principally found upon the red soils. The yellow marygold, or golding, willow weed, fat hen, chick-weed, &c. but more particularly the golding.

golding, are generally to be seen in great numbers on land subject to this disease. At the end of the fibres of the diseased turnip is a small knot, not unlike to a young potatoe, and within this generally a small worm; by this the plant is deprived of all nutriment from the earth, it falls up and dies. It is well known that this malady always happens on light soil, or at least such as are light and dry in the *summer* SEASON, for the disease occurs sometimes on land that is very wet in the winter. I saw some land of the latter description at Langham, under a clean farmer's management, who had most excellent crops of wheat, barley, and oats; yet his turnip crop was very full of weeds of the description I have before mentioned, and some of the plants inclined to go to fingers and toes. A cole crop was even still fuller. I mention this circumstance to shew that there is no general rule without an exception; the soils of these farms being very different, the one being wet and the other dry. I shall proceed to give an opinion as to what method would be advantageous to each. It would be advisable to persevere in fallowing for turnips or rapes, or rather for a mixed crop, as the hoeing on this land makes it light; and it has been experienced, that when a crop of turnips has been found out, whilst the hoe was at work, to be going off with this malady, that on ceasing to hoe any more, that the part which was hoed has gone off entirely, and on the other part, which was unhoed, many of the plants have flourished, but even here the crop has been very unsightly and a great many weeds. As even the pulling up of weeds lets in the air, and lightens the land, therefore this method of extirpating the weeds must also be avoided; therefore, when I perceived the disease coming I should put in cattle and sheep in great numbers to eat up the turnips and weeds altogether, as soon as possible, as, if they
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are not eaten off very expeditiously, the turnips keep declining so daily, that there would soon be none to eat, at the same time the weeds keep increasing, and get into seed, and when in this state nothing will eat them. My *principal object* in this proceeding is to *tread* the land by cattle and sheep, which are also eating off the produce of the land, which if not eaten then could not be done at all, as it would soon decay, excepting the weeds, which are also thus prevented from seeding the land. Though it may be very grating to the farmer's feelings to be eating off this crop, when he does not at all want it, yet, as this will be at a time very proper for getting a good cover of grass on his pastures for the winter, even in this point of view it will be serviceable. For the land itself this is a highly important proceeding, being very beneficial to it from the combined advantages of the treading, the dung, and the urine of the cattle and sheep. When the crop was eaten off, I should immediately plough up the land and sow cole seed, or, if proper for that crop, would sow rye amongst it, or oats, and eat the crop off as before. If rye was sown amongst the cole seed, and let stand for a crop after the eating off the cole, it is a query whether as good, or even better rye, might not be produced in that way as by any other. The eating off the cole with sheep (or cattle if convenient) would so dung the land, and give the rye so firm a root, as to cause it to grow very luxuriantly. I have some reason to believe that wheat sown in that way would answer, as I saw an instance in the county of Huntingdon, of wheat being sown on good clay land, after a summer fallow, between the 14th and 24th of August, and it was one of the finest crops, and ready to harvest near one month sooner than many crops in the county.

SECT. XVII.—COLE SEED, OR RAPE.

LITTLE of these plants cultivated for seed ; some sown for sheep-feed.

SECT. XVIII.—CABBAGES.

1. SOIL, red land. 2. Nursery.—1. Soil, loam. 2. Manuring, yard dung. 3. Seed, 2 lb. per acre. 4. Sort, drumhead; or cow cabbage. 5. Time, sown in August. 6. Transplanting, in October. 7. Watering, practised and done by hand, with common watering pans. 8. Grub, plants frequently infested with that reptile, but no method of destroying it known —3. Tillage, the land ploughed very deep two or three times. 4. Manure, yard-dung, 25 loads per acre. 5. Planting, in May. 6. Drilling, where intended to remain, none. 7. Horse hoeing, practised. 8. Hand hoeing, used. 9. Weeding, by hand. 10. Consumption.—1. By what stock, sheep and cattle. 2. Carted off, universally done. 4. Any mode of preserving? none. —11. Value, very great; no crop that grows on land being of a more fattening nature. 12. Exhaust or improve? exhaust, and require a great deal of dung and good land to grow them on. When used? in winter. How? by stall-feeding for cattle, and given on grass-land for sheep.—3. Comparison with turnips; better food than turnips, but more expensive to raise.

SECT. XIX.—RUTA BAGA, OR SWEDES.

1. SOIL, red land, or keal. 2. Tillage, ploughed three times, and harrowed. 3. Manuring, with yard-dung, 20 loads per acre, requiring more than the common turnip. 4. Seed, 2½ lb. per acre. 5. Sort, both white and yellow. 6. Time of sowing, May, or first week in June. 7. Transplanting, little or none done. Horse hoeing, none. 9. Hand hoeing, two or three times over. 10. Fly, no remedy known for this disease or malady. 11. Application, given to sheep and cattle. 12. Value, reckoned of great value. 13. Comparison with turnips; they are thought not be so fattening in the fore part of the winter, but better in the spring than the common turnips.

SECT. XX.—TURNIP CABBAGE.—None.

SECT. XXI.—KHOL RABIE.—None.

SECT. XXII.—BOORCOLE KALE, &c.

NONE in the county; but boorcole kale might be taken with great success after tares; when in Ireland, I planted a crop of this plant after tares, and kept it for the fattening sheep until May; when the turnip crops were over, I had a great produce, and found it extraordinary good fattening food for sheep. From the nature of this plant, when high and strong, from its branching out so in sprouts, I have no doubt, but a given quantity of land will keep more stock, and better than any other plant at the season of the year it comes in. I therefore highly recommend its culture.

SECT. XXIII.—CARROTS.

NONE grown for an extensive use.

SECT. XXIV.—PARSNIPS.—Ditto.

SECT. XXV.—BEETS.—Ditto.

SECT. XXVI.—POTATOES.

THIS crop is only raised in this county on a very small scale, and with no other view than for domestic uses.

SECT. XXVII.—CLOVER.

1. WITH what crops sown? with barley in general.
 2. Manuring, none used. 3. Seed, from 8 lb. to 10, 12 and 14 lb. per acre. 4. Time, generally at the sowing of the barley. 5. Use, some mown; some fed off; some soiled, but a small proportion; and some little seeded.
 6. Which the best preparation for wheat? mown twice, and then ploughed. 7. White.—1. Culture, sown with barley, but very little used. 2. Produce, not known, the crop being mostly fed off.—8. Is the land tired of clover? in some few instances. 9. In that case what variation of course? peas, or peas and beans are then taken.

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SECT. XXVIII.—TREFOIL.

1. SOIL, crech, red, woodland, and clay of all sorts. 2. Manure, ———— 3. Seed, never sown by itself, therefore seldom more than 4 or 6 lb. per acre. 4. Time, with the barley or oat crop in April. 5. Application.—1. Mown, in general mown the first year. 2. Fed, this done in the second year. 3. Seeded, none.—6. Duration, for four years.
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SECT. XXIX.—RAY GRASS.

1. SOIL, on all soils in the county. 2. Manure, none. 3. Seed, one bushel. 4. Time, April. 5. Application.—1. Fed, generally. 2. Hay, sometimes in the first year. 3. Seeded, very seldom.—6. Duration, sometimes from four to five years; but seldom more than from two to four years. 7. Preparation for what crop? in general oats, but sometimes peas.
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SECT. XXX.—SAINFOIN.

1. SOIL, crech or lime-stone. 2. Manure, none. 3. Tillage, sown with the corn crops. 4. Seed, four or five bushels per acre. 5. Time, April. 6. Drilling, none. 7. Application.—1. Hay, mown, for this purpose generally. 2. Seed, some little. 3. After grass, depastured with sheep.—8. Duration, for five or six years. 9. Harrowing, none. 10. How broken up, by the plough, and
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generally for oats or peas. 11. How soon renewed; the sowing of sainfoin in this county is too new a practice to obtain an answer to this question. This crop ought to be much more cultivated in this county than it is, all the thin creech soils being remarkably well calculated for its production, and when the culture of it was well understood, would be one of the greatest improvements imaginable. The land would bear this crop for twelve or fourteen years, and would cut from one to two tons of hay per acre. Sainfoin hay is very good food for horses and sheep; and being so very early harvested, is got at a small expense. The eddish will be ready at a time when the other artificial grasses are going off; and the lambs might then be taken off from the ewes in the month of June or beginning of July: this would give the ewes a great opportunity to get in good condition against the winter, thus enabling them to stand the winter much better. The corn stubbles would be ready by such time as the best of the sainfoin eddishes were over, upon which the ewes or lambs, or both, as occasion required, might be turned. Upon land of this nature, the farmer should have a piece of new seeds every year, and a piece of clover, and a sainfoin walk for his standing stock of hay, as it is but too often the practice to meadow land, which ought not to be thus treated on any account. The hay ought to be got off from the sainfoin and clover, and the grass land kept for pasture. I saw many acres of land in this county, which, if sainfoin were taken on them, would become very valuable; and which, in their present state, are worth scarcely any thing. There is no point upon which greater attention is needed from the farmers of this county than this.

SECT. XXXI.—LUCERNE.

THIS crop flourishes well, but is but very little cultivated; nor is it a crop at all to be recommended, for though a small quantity of it may be found beneficial for the soiling the team-horses, as it is found to grow quicker, and is of a greater substance than any other crop after mowing; yet the preference is certainly to be given to tares or lintels; were it only from *their* being a good preparation for any following crop; but moreover than this, tares or lintels may also be contrived to be grown on such lands, that little or no rent can fairly be charged for their growth.

Of the following crops there is no cultivation in this county, viz chickery, burnet, hops, hemp, flax, liquorice, chamomile, teasils, carraways, or corianders.

CHAP. VII.

MANURES.

ASHWELL.	Dung 15 loads per acre, lime 120 bushels per acre.
AYSTON,	Do. do. 15 quarters per acre.
BARLEYTHORPE,	Do. and stable dung from Oakham.
BARROW,	Do.
BARROWDEN,	Do.
BELTON,	Do. lime and sheep folding, the latter in a small degree.
BISHBROOKE,	Do. lime 80 bushels per acre.
BRAUNSTON,	Do.
BRIDGE CASTERTON,	Do. and stable dung from Stam- ford.
BROOKE,	Do.
BURLEY,	Do. and lime 10 quarters per acre.
CALDECOT,	Do.
COTTESMORE,	Do. and lime on red land, from 80 to 100 bushels per acre.
DRY STOKE,	Do.
	EDITHWESTON,

EDITHWESTON,	Do. laid on the lawn: compost in use by Mr. Tomlin.
EGLETON,	Do. and lime.
EMPINGHAM,	Do.
ESSENDINE,	Do. and sheep-folding.
EXTON,	Do.
GLAYSTON,	Do. and some lime used.
GREETHAM,	Do.
HAMBLETON,	Do. and lime.
GUNTHORPE,	Yard dung.
KETTON,	Do. and lime has been used, but was thought to injure the land.
LANGHAM,	Do. ten loads per acre.
LITTLE CASTERTON,	Yard dung; stable dung from Stamford, 10 or 12 loads per acre; pigeon dung used, and approved of very much for wheat and barley.
LYDDINGTON,	Yard dung and a little lime used.
LYNDEN,	Do.
LEAFIELDS,	Do.
MANTON,	Do. paring and burning used and approved.
MARKET OVERTON,	Do. 12 loads per acre; lime 80 bushels.
MORCOT,	Do. sheep folding and lime.
NORMANTON,	Do. do.
NORTH LUFFENHAM,	Do. do. and lime 15 quarters per acre.
OAKHAM,	Do. and stable dung.
PICKWORTH,	Do.
PILTON,	Do. and laid on the land in its long state; lime 10 quarters per acre.

PRESTON,

PRESTON,	Do. lime 80 bushels per acre.
RIDLINGTON,	Do. lime.
RYAL,	Yard dung, 8 loads per acre; paring and burning practised on the heath, and much ap- proved.
SEATON,	Yard dung and sheep-folding.
SOUTH LUFFENHAM,	Do. do.
STRETTON,	Do.
TEIGH,	Yard dung: lime and soap boil- er's ashes.
TICKENCOTE,	Do. stable dung from Stamford, price 10s. per load.
THISTLETON,	Do.
THORPE,	Do. lime used by a few, at the rate of 80 bushels per acre.
TINWELL,	Do. a manure from Stamford.
TIXOVER,	Do. and lime.
UPPINGHAM,	Do. do. and stable dung.
WING,	Yard dung 12 loads per acre, lime 15 quarters per acre.
WISSENDINE,	Do. paring and burning practised.
WETWELL,	Do. and a little sheep-folding.

With respect to the management of manure in this county, it is as well conducted, generally speaking, as in many other parts; but I am of an opinion with the worthy Secretary of the Board of Agriculture, in his Essay on Manures (SEE No. 10, BATH AGRICULTURAL SOCIETY), that what has of late years become a practice, is rather injurious than otherwise. By the *old* practice, more salts were retained in manure by carting it away, as the cattle, &c. made it, and laying it on the land in its long state, and ploughing it in, and when it is laid in the fold-yard,

yard, by being continually trodden down, it became firm, and did not lose so much of its virtues by exhalation; nor did it ferment so much, or was there an opportunity for the salts to drain away from it so much as they now do. By the *present* practice of turning the manure in the fold-yard, or of carting it out and laying it in hill, although it is made shorter or more sightly thereby, and spreads better on the land; yet the strength of the manure is diminished, by reason of the turning it, causing such a fermentation to come on, as is sufficient to carry off by evaporation some of its most saline nutritious qualities, without being the cause of destroying the seeds of weeds, and further, by laying it up in that light state, the rains penetrate in such a manner, as to carry off much of its strength in copious and repeated discharges of *black water*; and it may be seen to operate in these two ways, in every succeeding rain for some time, until, I have but little doubt, nine-tenths of its valuable particles are drained and evaporated away. I have been the more convinced of this, by conversing with gardeners in the neighbourhood of London, on the subject. They observe, that the dung made use of by them, of the best nature, for hot-beds, comes from thence in a state of very little strength or real use for any garden use. Now here, the manure being banked round with earth, no strength can escape that way: the gardeners agree with me, that exhalation is alone the cause, from the *repeated necessary watering* of the plants, causing every time a fresh fermentation until its strength is entirely gone.

The black water which is thus drained away from manure, has been frequently tried on land, thinking it would answer as well, or better than dung; but this has been found to be far from the fact. The late Mr. Drummond of Bawtry, in Yorkshire, tried the experiment without

success.

success. I myself, before I got into the way of making compost, carried my manure out of the yard, and having made a dunghill of it, had a grip cut round it with a descent to a kind of reservoir at one end of the hill for this water to drain into, and then had it thrown on that end, thinking I should thereby prevent loss of strength in the manure; but I found, when the manure came to be laid on ray land, that, on the contrary, the manure which came from that end of the hill, which I had thrown the water upon, was weaker than the other. I could not, I own, at that time imagine the reason, but my after experience has proved to me, that it was caused by the throwing on the black water, which made a fresh fermentation take place, and of course, took away strength by another exhalation. It therefore appears, that when once this black water departs from the dung, that it is like blood let out of a vein, never to be applied again for the like purpose it was designed for while in its original state. Now having, it is hoped, satisfactorily shewn the superiority of the old practice over the new, let me not be thought to speak in recommendation of it any further, than as having that preference; for the method of making compost is so far superior, that I wish to impress it on every mind. On reference to my first edition of *The Experienced Farmer*, and to my *Farmer's Tour in America*, it will be found I strongly recommended the use of compost dung. Since that time, from a few chemical ideas and actual experience in Ireland, I have had reason, still more strongly, to recommend the making and using compost. For at Slane, from 100 loads of straw dung which had been but two months in making with cattle, horses, and pigs, made up into a hill of compost, I carted out 242 loads of compost, which being laid upon a piece of land worn out and exhausted, by having had eight successive crops taken from it,

it, and no dung during that time, caused it to produce four very extraordinary good crops, viz. turnips, barley, potatoes, and wheat—(See this fully described in my English Practice of Agriculture in Ireland, page 29). It is plain, that the wonderful increase in the manure arose from the salts of the raw dung having been absorbed by the earth, and thus acting like yeast put to flour, and that its *strength* did not arise from the quantity of strawy matter, but from the salts contained in the straw. I refer the reader to the third edition of the Experienced Farmer, Part I. Sect. 11, pages 178 to page 223, where composts are fully explained for every soil of land.

Town dung is very much used near Stamford, and approved of more than yard dung. Its being generally a kind of compost is one great reason of this, as it is composed of the scrapings and sweepings of the streets, &c. which, of all other manures, are allowed to be the best by the London gardeners, who have a greater opportunity of judging of their merits than any other set of men. These sweepings, &c. are best when taken up after heavy showers of rain, which wash the tops of the houses and the channels, &c. and bring down quantities of soot, urine, &c. which get mixed with the finely pounded soil in the streets, and are then laid amongst stable dung, &c. on a hill. The rains which fall do not wash away the salts, as this sort of town dung absorbs them, and keeps them in. By carting this street dirt away from the towns at different times, different qualities are obtained, and thus the very best of compost is formed. In the same manner, as Lord Dundonald observes in his Treatise, that two sorts of flour make better bread than one of them would, though each of like quality.

CHAP. VIII.

GRASS LAND.

SECT. I.—MEADOWS.

THESE are chiefly upland; the only meadows which are flooded, being those by the side of the rivers Welland, Guash, and Calmose. Those by the side of the two last, are but little flooded, except in heavy rains, when great quantities of water are collected in them, but the water goes off very quickly; the river Welland having but little fall, and the meadows being very flat by the side of it, the water goes off slowly, and continues so long upon the land it floods, that the pasturage is rendered unwholesome, and frequently rots the sheep. The average produce of hay is from one ton to one ton and a half per acre; the hay is seldom sold, but is stocked and fed in the fields, where it grew; this practice, where the land is wet, is a serious injury. For rents I refer the reader to the general table of rents, page 28, not having met with an instance of a difference in rent betwixt the other parts of the farms and of land under this denomination worthy of record. The expense of mowing per acre is from 2s. 6d. to 2s. 9d. per acre; from about 1s. 6d. to 2s. per acre for cocking, and for stacking, &c. from 6d. to 1s. per acre, much of the hay being stacked in the meadow where it is grown; were it carted to any distance, the expense would be higher,

higher, but this depending entirely upon distance, cannot be reduced to an average price: by these prices it will appear, that from 4s. 6d. to 5s. 9d. per acre is the price of mowing, making and stacking, or 5s. 1½d. per acre, on an average. The expense of making is not so high as in many other parts, there not being so much labour attending the process of hay-making here; it not being a custom to spread the grass about, but to let it lay in the swath for some days until it be partly dead, then to turn it and cock it, and in some parts, after turning, to cart it immediately. This practice is, in general, censured, or at least, very frequently; but it would be well, ere this censure was indulged, if those who pass it, would consider, that by hay made thus, very large oxen are ENTIRELY fattened, and arrive at very great weights, not only in this county, but in the grazing parts of Lincolnshire. The whole art in making hay, is that the juices be retained in it, as much as possible, without making the hay *over-heat* and making it mouldy; to attain this object, time must be given in the making, so that it wither by degrees; consequently, the method adopted in this county has a decided preference over the other, as by spreading the grass about, the virtues are all extracted from it by the sun and wind, and the expenses are much greater. Hay ought to stand some time in the cock, as it ought not to be so much withered at the time it is taken from the ground, as to be ready to be put in the large stack,

SECT. II.—PASTURES.

THE management of grazing lands is much better understood in this county than in many others. There is less waste of grass, and the ground is generally stocked with an equal

equal and proper proportion of cattle and sheep, with a small quantity of horses, so that the sorts of grass suitable to each of the different palates of those animals, are all taken off; the thistles are mown; and most of the pastures of the richer quality are hobbled. This last proceeding is in general, however done too late, it being done after the meadows are mown, or sometimes if wet weather should come during the time of mowing the hay crop, by way of expediency, some part is then hobbled. Thus it is as late as August ere the whole of this necessary work is done, by which time the grass, towards the roots, has become red and putrid, and but of very little worth, with the further disadvantage, that the grass will not be re-produced on those parts so readily, nor so thick as it would have been had it been mown in the latter end of June or beginning of July. Thus time is not given for getting a proper covering of grass against winter, which it is highly necessary to do on all pastures for their preservation. At the time, however, that the hobbing or mowing these parts in the pasture ought to be done, I am aware, there is much other business going on on a farm, such as turnip hoeing, mowing grass, making hay, &c. so that this necessary process is obliged to be made more an act of expediency than inclination; for I was shewn a feeding pasture by Mr. Fludyer, where part of it had been hobbled, and the other not; Mr. F. agreed with my observation, that more fattening grass was produced on that part which had been mown early in the summer, but said the other parts had been neglected through the obligation of employing the men in other occupations. Some pastures, however, in this county are kept particularly neat indeed. It is obvious, that the proper time to mow or hob the rough grasses in the feeding pastures, is as early as the time when the meadows are mown, as on that best land the
 grass

grass on those very rich spots grows very early in the spring, and by being neglected by the cattle, gets trodden down, and is thus liable to rot. It often happens too, that in those rich places, the dung of cattle is encompassed and covered over by large tufts of grass; these tufts being removed by the scythe, the dung gets spread, the spot gets air, and sweetens, whilst the grass, which was refused whilst standing, getting into a state of hay, is eagerly devoured by the cattle; for they will even eat thistles when got into this state. The average stock kept, is one ox and one sheep on two acres of land in summer, and one sheep, or one sheep and a half in winter.

It is the opinion of the graziers, on calculation, that from 40 to 50 stone of flesh is sent off per year, from an acre. There are no dairy grounds. The sheep pastures are various; but in summer, upon the best breeding land, about 4 or 5 old and young sheep are kept per acre; and one beast to four acres; and in winter, about $1\frac{1}{2}$ sheep per acre.

About one half of the grass land is good feeding land, the rest of an inferior quality, is used as store-land: in general, the ground is healthy for sheep and cattle. The land has been almost all laid down with too high ridges, by which means the furrows are frequently wet and unproductive, whilst the grass on the tops of the ridges is burnt up: this is an old bad custom, and it is a pity that it has not been corrected in the latest enclosed lordships. There ought to have been a small land gathered betwixt every land when it was ploughed up, by which means, when laid down, the low part of the furrow would have been raised higher, and by the ridges having been ploughed down a little, the land would have been brought more to a level, and caused the land to be easier to drain, as it would by nature, be drier, having two open furrows instead of one,

RUTLAND.]

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and having less distance to drain. I do not, by any means, approve of ploughing those high ridges down all at once, as thus all the good soil would be thrown underneath, causing the tops of the ridges to be very poor, and to remain so for many years, and not getting covered with grass at all for some time. The land is much over-run with ant-hills: of late years, many occupiers have, it is true, proceeded with great spirit in destroying the ant-hills, (here called banking the land) but still much remains to be done, both as to the quantity and the method.

Banking is done in various ways; by some the ant-hills are cut up, and laid in the deep furrows, and oats and seeds sown, which should seem to be an improper method, on account of the number of hills being more in one place than another, from which the water stands in wet seasons, in such a manner, that where land is liable to rot sheep, it is very dangerous during the summer season; and by the water standing so long in winter, sometimes nearly the whole of that season, the grass, in process of time, becomes a sort of water plant of an unkind nature, and possessed of no fattening qualities. Others lay the ant-hills on the ridges, and sow oats and seeds, which is a much worse practice than the other, as by this means the ridges are raised higher than before; and as ant hills on clay land are often only a mass of clay of poor quality, a much better surface is covered up by them than they are composed of, which must be nearly lost to any proper use for many years to come; and by being raised higher, will be more liable to be burnt up by the summer's sun than before. Gelding of ant-hills is a better process than either of the foregoing methods, and is frequently practised in this county; this is done by paring the swarth off, and then taking the earth out of the hills. The swarth should be pared off carefully, as it is to be laid down again, and as the ants
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take up their abode as much below the surface as above it; the earth must be dug out lower than the surface, thus leaving it rather hollow when the sward is laid on again; for as the intention is to destroy the ant-hills, it is obvious, that if any of the ants are left under the sward, they will soon raise another hill: however, to make the land as even as possible, the edges of the part whence the hill was taken, must be chopped in fine, and laid in the hollow; thus some good soil will be introduced into it for the sward to lay upon, and will improve the herbage, which on the tops of those hills is generally of an inferior sort, and is very much in need of some better soil. The edges round ant-hills are in common composed of better soil, from the way in which sheep, when depastured, lay against the hills, depositing a great deal of dung. It is a good way to have the hills chopped into small pieces in a heap together, and made as fine as possible, so that when the earth produced from them comes to be spread, it may go into the seams betwixt the old sward, and that newly laid down, and make them join well together. In the spring it should be harrowed, and then bush-harrowed, and well rolled to press down all the lumps; then, if there be much earth, sow seeds. This process will revive the old plants, and make an addition to the sward by intermixing some young grasses and clover amongst the old grasses. In some counties they cut up the hills totally, and burn them, which in some measure is a better way, as from the ashes being spread, the land must be much benefited; but although many of the ants are thus destroyed, yet they are not totally; and many will remain on the places where those hills were, and raise up fresh hills; and it will be a long time ere any quantity of good grasses spring up whence the hills were taken. If in gelding the ant-hills the earth was mixed up with dung, and

made into compost, and then spread on the land, this would, I have no doubt, answer better than any of the methods I have here mentioned. But in fact, all these methods are attended with great expense and slow profit, therefore the most decided preference must be given to paring and burning these kind of rough lands, worn out by long continuance in grass. The kind of grass which grows on ant-hills is generally of a poor nature, neither fit for meadow nor pasture; and indeed the whole of the grass where ant-hills abound, is generally of an inferior kind, and overrun with moss; thus the land, under such circumstances, is but of little value: but when pared and burnt, and sown with rapes, wheat, beans, barley or oats, clover, wheat, garden peas, and after them rapes the same season, and then barley and seeds for pasture or meadows, the straw from all those crops being carefully collected, made into compost, and applied to the land; then the tenant is amply repaid for his expense and labour, and the landlord much, *very much* benefited by the ameliorated state of the land. The tenant would from this course have been enabled too to lay the land in such a manner as to render it level and drier. I must confess I am a warm friend to enriching the tenant; for no improvement can be effected without money; and the land ought to be so managed, as to not only pay for its improvements, but reward the *improver*. With an honest hope that encouragement may be held out to the tenant who has this spirit of improvement within him, I can safely affirm, that in my experience, I never knew a rich tenant impoverish a farm much, or a poor one enrich or improve one.

There is a cow pasture at Hambleton for the cottagers, containing 114 acres, which is divided into 91 pastures, and let partly to farmers and cottagers, at 30s. each, yearly,

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It is stocked as follows: One cow, or four barren sheep, or three ewes and lambs, from old May-day to old Michaelmas-day, and from old Michaelmas-day to old Lady-day, with $2\frac{1}{2}$ sheep, or 3 lambs to each pasture. The land is not stocked from old Lady-day to old May-day.

At Eggleton the cottagers have a cow pasture, containing 35 acres, which is stocked with 28 cows, or four barren sheep, or three ewes and lambs, from old May-day to old Michaelmas-day; the remainder of the year it is stocked and managed as at Hambleton. The price of a common, as it is termed, is 1l. 16s.

At Greetham the cottagers have a cow pasture, containing 67 acres, which is stocked with 29 commons, at 30s. each. The land is stocked with cows from old May-day to Candlemas-day, and is not stocked for the remainder of the year. The cottagers have also from six to eight acres of arable land, which is in this state, on account of its being too shallow of earth for pasture; on parts of which they cultivate sainfoin and clover for winter fodder.

At Burley the cottagers have two closes containing 12 acres each, which is divided into eight commons, each ground or close being mown alternately. There is a cottage hovel between the two grounds, which contains the eight cows; the stock kept here is eight cows and three sheep in the summer, and six sheep in winter to each common; as under is a sketch of the hovel, which I was favoured with by Mr. Wilson, Lord Winchelsea's steward.

2	3	4	5	6	7				
Stack-yard.	Stack-yard.	Stack-yard.	Stack-yard.	Stack yard.	Stack-yard.				
1	1	2	3	4	5	6	7	8	8
Stack-yard.	12 Feet 6 Inch as each 8 Ft. each.								Stack yard.

A Studd Partition between each Cow Place.

Several cottagers at Burley rent closes to themselves.

The custom of letting small portions of land to labourers prevails also, though in a less degree in the parishes of Empingham, Ketton, Langham, Lynden, and Wis-sendine.

CHAP. IX.

GARDENS AND ORCHARDS.

AT Ayston there are several small gardens and orchards. At Ashwell, Barrowden, Barleythorpe, and Belton, there is but one small garden in each parish. The gardens and orchards are very large at Bishbrooke, where there is also a cherry holt of thirty acres. The gardens and orchards are very small at Barrow, Braunston, Bridge Casterton, and Brooke. There are good gardens at Buryley, but bad orchards, being a place very badly supplied with fruit of its own production. The gardens and orchards are small at Caldecot, Clipsham, Cottesmore, Dry Stoke and Edithweston. The gardens and orchards are good at Eggleton, but very small at the following places: Empingham, Essendine, Exton, Flitton, Glaxton, Greetham, Hambleton, Gunthorpe and Ketton. At Lougham the gardens are small, but the orchards are large and very old. Little Casterton, Leafields, Lyddington, Lynden, Manton, Market Overton, and Martinthorpe, have all of them gardens and orchards, but small. At Morcot, though the gardens are small, yet the orchards are large. Normanton, the gardens here are small. The

gardens and orchards at North Luffenham are good. Oakham has good gardens, but small orchards. The gardens and orchards are small at all the remaining parishes in this county, excepting at Ryall, where there are eight tolerably large gardens; and at Uppingham, where there is one very large orchard, containing 30 acres. At Oakham three acres of ground are yearly taken from the bean field in the occupation of farmers, and divided into 24 gardens, for the use of the labouring people, for which they each of them pay 5s. per year to the farmer from whom the land is taken. At Hambleton, in like manner, a 3½ acres close is divided into 14 gardens, and the like rent paid. Half of this quantity being sown with barley, and the other half with potatoes.

CHAP. X.

WOODS, &c.

FOR the following account of Earl Winchelsea's woods I am indebted to his lordship's steward, Mr. Wilson, to whom I am also very much obliged for much other valuable information.

The woods are divided into fifteen years' rounds; thus one-fifteenth part is felled every year; the oak timber is cut in April and May, and sold to farmers and tradesmen. This year, 1806, the average price was from 2s. 6d. to 2s. 9d. a cubic foot, exclusive of all other expenses. The bark is sold to tanners by the cubic yard, or 20 yards to the load; price 10l. per load; peeling, stacking, &c. paid by the purchasers; a load weighs from 30 to 35 cwt. The underwood is cut in November and December, or as soon as the leaf is off, and sold to farmers for hedging, &c. the average price being from 6l. to 8l. per acre.

Oak timber is not much raised in this county, and there is but little fit for the navy. The best sort is used for building; the coarser sort, which is not used for fences, &c. is made into gates, hurdles, &c. and sold at Peterbro' and Spalding fairs, and carried into the fen country. Planting of oak should be more attended to, as it thrives well in most parts of the county; making plantations in the corners of fields, where the angles are acute, would
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be a great ornament, as well as advantageous to an estate, and done at a small expense. This is a desirable improvement, as a trading country like Britain will always want timber, and the consumption of it in time of war is so great, that it is not only the interest, but the duty, of gentlemen of fortune to promote the growth of it. Underwood is cut from 12 to 16 years' growth; all underwood should, as is practised in Earl Winchelsea's woods, be cut as soon as the leaf is off, and not more than four inches above the ground, which would greatly invigorate the spring shoots; and I am of opinion that wood so cut and managed, in the course of twelve years, will net more by two pounds per acre than if cut high. Draining of woods is another improvement; much benefit would arise by making open grips to carry off the water, which should be opened every third year at furthest. In planting of oak for timber there should be some sort of quick growing wood planted amongst it. Forest trees of different sorts, as larch, beech, birch, &c., and ashes, willows, alder, &c., which latter are most preferable, as they will grow again when cut; also a quantity of black-thorns, hazels, &c. Black-thorns are a very useful underwood, I think them the best of any other for putting into under-drains. The forest trees are very ornamental, and assist from their shade in promoting the growth of oaks; but the ash, willows, &c. do this also, and are infinitely more profitable. When acorns fall it may be observed in our woods, that there is a succession of young oaks, even in greater abundance than are wanted; and as an oak tree requires much room to make large timber, ten yards asunder at the first planting will be found to be near enough; then by the time it will be proper to cut any of the oaks, which will be when they have arrived at such a size as to want room, by cutting down every other oak, there will be a proper space

space of twenty yards for the remaining oaks, and when they are felled, the shoots produced from the oaks which were first cut will give another succession of oak timber; and when these second growths of oak are cut for timber, there will be another succession from the self sown ones, thus continuing in succession for ever. The ash will be fit to cut in ten years, from the time they were planted, for poles for some uses; this sort of timber grows much quicker after having been cut than it does from the seedling. The thicker woods are the quicker the trees grow, and straighter, which may be more particularly observed in ashes growing from the stool, which, if not shaded from the winds, are apt to be split off, and, if not, generally grow crooked. I should, therefore, recommend planting woods as thick as possible with black-thorns, hazels, hornbeam, &c. &c. accordingly as they are respectively adapted to the soil. Ash will thrive well on both wet and dry soils; they may be seen growing in Derbyshire on the sides of rocks, where there is but little, or indeed almost no soil. Whilst speaking of timber I must observe, that there is in general a great neglect in the late enclosures of planting timber in the hedge-rows; this I must consider as a fatal and grievous neglect, though I know there are many of the opposite opinion, especially the tenantry, it being a received idea, that timber trees in the hedge rows injure the crops. I agree that a man cannot have his cake and eat his cake; and where trees are suffered in the hedge-rows to overhang very much, that there may be some loss, but elms or wych are a kind of trees which, if properly trimmed whilst young, will not overhang much. But admitting that oaks, ash, and elm, were planted in the rows, and permitted to branch out and overhang the crops, I am of opinion that the service which they will be of, in shading the corn from the cold
harsh

harsh winds, will more than compensate for the injury. I have particularly observed where a country is well timbered, that it does not only give it a fertile appearance, but the country really is so, and in very barren countries, where small enclosures have been long formed, the land is always the most fertile; and we may further observe, that in a garden the most sheltered places are chosen for plants at certain seasons. I have every reason to believe that where land is well enclosed by good thorn-hedges, with timber trees in the rows, the soil is made more fertile, and that were any given number of acres to be enclosed in fields of from 10 to 15, or 20 acres, with those shadowy fences, and a like quantity of acres, of like quality, but only enclosed by post and rails, that the part which had the shady fences would, in process of time, be far superior to the other in fertility; and although there should be some loss in produce by the sides of those fences, that the middle parts of the fields would, by their produce, more than compensate for such partial loss, which would be owing to the shade and warmth produced by the fences. I am also of opinion, that the mildew would partly be prevented by the fences, from an instance which I noticed in a crop of wheat of my Lord Winchelsea's, which was affected by the mildew; there being on the west side a plantation, it was clearly discoverable to the exact distance which the sun was prevented shining upon it, that the wheat looked much whiter, and was not so much affected by the mildew. There were several large ash trees in the east side, and as far as their shade extended, the same effects were very visible. These circumstances corroborate with my former ideas on the mildew, (*Experienced Farmer*, 3d. edit. Sect. 12. p. 224 to 246) and give an idea why rye sown amongst wheat has been a means of rendering it,

it less affected by the mildew, or why rivet, or bearded wheat, &c. is not so liable to that malady.

Now supposing those new enclosures to have had timber trees planted in the hedge rows, and in many of them it is not yet too late, in every ten acres, planting the trees at ten yards from each other, there would have been 88 trees; and supposing those trees, at any given time, as this must depend on the soil, say 50 years, to be worth £5 each, that would be £440 on the ten acres, making £44 per acre, on every ten acres of land; thus the consequences would be very beneficial; and was an allowance to be made by the landlord for the space taken up by the trees, he would be amply repaid in the end, but for this there is no occasion, for the reasons I have already given. It may be objected, that when the trees come to be felled, a space is made in the quick fences, but this will be obviated by planting the trees a little to one side of the fence; but even should there be a weak place in the fence, or a breach made, it is a very easy matter to make it up when the hedge is plashed—SEE PLASHING AND SETTING QUICKS, fully explained in *The Experienced Farmer*, part I. page 49 to 55; and in pages 33 to 48, 3d edition.

When surveying the county of Buckingham, I saw one elm tree, which grew in the hedge-row, on the Earl of Chesterfield's estate, which sold for £100. I wished to ascertain the length of time it had been growing, but could not; however, from many subsequent inquiries, I find that from the quick growth of elms, it is seldom found that they flourish more than fifty years, when they generally go to decay. I was always friendly to planting in the hedge-rows, and this circumstance made me turn my mind more fully to the subject, and makes me more anxious to impress it on the minds of land-owners. I
highly

highly recommend elms where the soil is congenial; but where the soil is not good, ash should be planted, as should they not prosper as timber trees, they will be found valuable cut as pollards; after being once cut they quickly throw out young shoots, which become very useful farmer's wood for hurdles, rails, fences, &c. &c. and in time, may nearly be as profitable as timber. It is to be remarked, that ash and elm seldom want replanting, for by the time the original trees are felled there is generally a succession of young trees sufficient, with care, to replace them. There ought to be the greatest attention, on enclosures taking place, paid to planting, there being no soil but what may be planted with some kind of trees to advantage: willows on boggy or peat soils, or in small wet places, which are often to be met with at the corners, &c. of fields, are very profitable: birch for brooms, on some land, would be found very advantageous. I do not recommend Scotch firs, larch, &c. nor any trees but will grow out of the stools, and plant themselves in hedges, as they want replanting, when the old trees are felled, and have more of ornament than use in them.

CHAP. XI.

WASTES.

TO the honour of this county, I have to observe, with the greatest satisfaction, that there is no land in it which can be thus denominated.

CHAP.

CHAP. XII.

IMPROVEMENTS.

SECT. I.—DRAINING.

THERE is but little draining done in this county; where it has been done, which is chiefly upon red land, it has been attended with the greatest advantages. There is much land which appears to need draining. The methods of draining are for small depths; the shoulder drain by triangular stones; and for greater depths, walls on the sides covered by flat stones. There are many soils consisting of a tenacious, stringy clay, where there are no springs, and the water is collected in ponds; on such it must be obvious, that open drains must be made with proper falls to those reservoirs; but what drains I saw of this description, were neither wide enough, deep enough, nor in sufficient numbers. On other parts of the county, which are very springy, underdrains being the cheapest and best, must be had recourse to, and should, if possible, be filled in with black thorns. The drains which are made in low or spongy places, for carrying off the water, are generally much too shallow. In many places which feel the want of ponds, rivulets, or waterings, a remedy might be found for the inconvenience, by draining the sides of the hills, which are, in general full of water; thus a supply of water

amply large for all purposes, would be obtained, at the same time, that a very great improvement would be effected, by laying the land dry below those springs. SEE DRAINING LAND. Exped. Farmer. Ed. 3d. Vol. 1. page 56 to page 112.

SECT. II.—PARING AND BURNING.

THIS is a practice but little used in this county; where it is, it is chiefly upon cold soils, where the land is coarse and over-run with hassocks, and is of infinite service to this sort of land, if only ploughed as directed under what I have written on Banking, page 98, and then laid to grass: but it too often happens that such lands and the manure not returned until they are quite exhausted, and are then laid down in a very foul, poor, weak state. All lands which are thus pared and burnt, should also be drained, which would tend much to their improvement. The price for paring and burning is from 20s. to 25s. per acre. In this process, great caution ought to be taken in making the hills small, and spreading the ashes whilst hot, which is of essential use to the land. For paring and burning—See 3d. Edition of Exped. Farmer, Vol. I. sect. 7, page 113 to p. 142.

SECT. III.—MANURING.

I OBSERVED no improvements on this head in the county; and my opinion as to what is necessary for this desirable purpose, is already given under the head MANURES, page 88.

RUTLAND.]

I

SECT.

SECT. IV.—IRRIGATION.

As this practice has long been held up as very advantageous, I am aware, that I tread on tender ground when I venture to assert, that the contrary has been generally proved to be the case; though I assert this from experience, could I not bring forward facts in support of my assertion, I believe I might not have ventured it. The system has been pursued by a gentleman in this county, of the first respectability, in a most correct manner; he has now discontinued the practice. The following is an extract from a letter with which he was so obliging as to favour me since my departure from Rutland: “In my opinion watering renders the quality of the herbage and the land the worse for the process. Where land is tolerably productive, and in a situation where a quantity of grass food is not required, I should certainly not advise it: I think the land may be turned to better account without it. But I think there are many situations, particularly on gravel, sand, or open soils, where it may be very advantageous; the produce, by such means, is certainly much increased, and, in some instances, rendered larger when very little otherwise would be produced.” Though the produce is increased, yet it becomes in time, in a few years, of so coarse a nature, and mixed with rushes and water plants, that cattle frequently refuse to eat it, and when it is eaten, the appearance of the cattle proclaims it far from being of a nutritious nature. I was formerly an advocate for irrigation, and am still on such soils as are described in the above extract; but having had since opportunities of viewing several water meadows which have been of long standing, which have operated to the disadvantage of both the herbage and the land, I have been obliged, in a great measure, to alter my opinion.

CHAP.

CHAP. XIII.

LIVE STOCK.

CATTLE.

Parishes.	Breeds.	Cows.		Calves.		Store.		Working Cattle.		Fattening Cattle.		Sucklers.		Total.
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
Ashwell . . .	Mixed . . .	40	50							300				370
Ayston . . .	Leicestershire long horns . . .	50								100				150
Barleythorpe . . .	Mixed . . .	50	30											80
Barrowden . . .	Do. . .	58	60											118
Barton . . .	Do. . .	40	90							20				60
Babbrooke . . .	Do. . .	25	12											57
Bridge Casterton . . .	Do. . .	33	20											53
Braunston . . .	Long horned breed . . .	65	32											97
Brooke . . .	Mixed . . .	34	17									30		81
Burley . . .	Earl Winchelsea's North Devon, others mixed . . .	50	30	100					250					430
Caldecot . . .	Long horn and Lincoln . . .	30	40						100					170
Clipsbam . . .	Mixed . . .	60	70											130
Cottesmore . . .	Do. . .	45	45							30		6		90
Dry Stoke . . .	Scots, Irish, and Yorkshire . . .	18												324
Edithweston . . .	Mixed . . .	25	30											55
Egleton . . .	Do. . .	50										20		70
Empingham . . .	Home bred . . .	250	50									20		320
Essendine . . .	Mixed . . .	24	24											48
Exton . . .	Do. . .	60	90											100
Flittoris . . .	Do. . .	1				60						1		62
Glaysstone . . .	Do. . .	30	20							60				110
Greetham . . .	Mr. Gilson, Leicester long horns; others mixed . . .	50	50											70
Gunthorpe . . .	Mixed . . .	4												4
Haunbleton . . .	Do. . .	120				450						200		770
Ketton . . .	Do. . .	50	20											70
Langham . . .	Do. . .	120	40							800				960

Leafelds	Mixed	40	40	170	256
Little Casterton	Do.	122	14	—	136
Lyddington	Do.	80	30	40	150
Lydden	Do.	50	—	300	400
Manton	Do.	30	20	—	50
Market Overton	Do.	50	50	—	100
Martinsborpe	Do.	5	—	200	210
Morcott	Long horned	40	40	—	80
Normanton	Lincolnshire and short horned, very large & cross.	50	50	50	150
North Luffenham	Mixed	60	30	—	90
Oakham	Do.	146	—	—	146
Pickworth.	Do.	25	20	—	45
Pilton	Do.	20	20	—	40
Preston	Do.	40	20	—	60
Ridlington.	Mixed, except a few Yorkshire	26	16	30	72
Ryall	Mixed	50	50	—	100
Sutton	Do.	80	30	90	200
South Luffenham	Do.	30	12	—	42
Streton	Do.	50	38	—	80
Teigh	Do.	30	20	—	50
Tickencote	Do.	12	—	—	12
Thistleton	Do.	25	18	—	43
Thorpe	Do.	20	10	—	30
Tiorrell	Do.	20	20	10	50
Tixover	Do.	10	—	—	20
Uppingham	Long horned	100	20	—	120
Wardley	Do.	24	14	—	38
Wing	Mixed	20	6	45	71
Wisensdine	Do.	84	23	—	112
Witwell	Do.	28	6	—	34
Total		9729	1244	2775	332
					7786

This is not much of a breeding county, and those cattle which are reared, are of no particular breed; in general rather inferior. A few of Bakewell's breed of long horns, and some of the Devonshire breed have been introduced by Earl Winchelsea, who rears them. The cows give but little milk, (but very rich) they run so much to beef. His lordship agreed with me in opinion, that six Yorkshire cows would give as much milk as fifteen which his lordship now has. Many of the calves which are bred in the county are sold fat to the butcher, and are chiefly fed by cottagers; the veal is esteemed very good. Dairies are few, except for family use; grazing is the principal object. The cattle, most in request, are the Irish and small Scotch. The Irish have not been long known in the county; but are now bought in preference to the Welch, Shropshire, and large Scotch, which were formerly grazed here. The graziers say the Irish are cheap in comparison with the others; they vary much, some being good, others very inferior; they are all long horned, and have been much improved by bulls sent to Ireland from Leicestershire. In general they are, after one summer's grass, sent to London, stall feeding not being much practised. Hay is sometimes given to some of the best to keep them till after Christmas. Some barren cows are grazed, and some long, and a few short horned heifers of the Durham breed are bought in at two years old; and when three years old, are sold in calf to jobbers, who take them to the dairy counties, or to London. A great many of the cattle grazed here, appear to be collected from many other counties, few of the pastures being stocked with one regular set or breed of cattle, but consisting of some Irish, some Lincolnshire, some Scotch, and some Welch.

Graziers, in different counties, differ very much as to which are the most profitable cattle; for instance, in the

county of Lincoln, large plain cattle are preferred, and in Leicestershire, compact, handsome ones. However, though in general in Rutland, there is an inferior assortment of fattening cattle, there are many examples to the contrary. Lord Winchelsea has a very complete set of Devon oxen, fattening; also of milch cows and breeding stock. Mr. Fludyer had some very handsome Scotch oxen, of a proper size, being about 50 stone, of 14 lb. to the stone. Mr. Godfrey had some very good long horned steers, of the Craven or Lancashire breed. Mr. G. made a very proper observation on that kind of cattle not fattening so well as they used to do, by reason, that they used, when they drew oxen in this county, to buy them in younger, and keep them to be about two years older. I agree exactly with Mr. G.; and it may further be observed, that oxen which have been worked, on coming to be fattened and rest from labour, are more pointy, not having so much of the bull about them, or so coarse; also, whilst fattening, they rest much more quietly in the pasture; and from their flesh being reduced by labour when they come to be fattened, their flesh is all new; and I have always observed, that animals which were very poor and quickly fattened, are always more juicy and marbled in their flesh, than animals which have been in a fat state for any length of time. This observation makes in favour of drawing oxen, which is also attended with great advantage in the harrowing in lea or sward land crops, which brings me to *working oxen*. There are but ten oxen kept for this purpose in the whole county, and those by Earl Winchelsea. I was informed by one gentleman in the county, that he had made an attempt at using oxen; but that his men were so averse to the plan, that he gave it up, sooner than have the trouble of *breaking the men* into it. The farms being generally small, is one reason why oxen are not used,

as the occupier of such farms must employ a team of horses for the cultivation of them, there not being that economy in use of oxen on small farms, as on large ones; for as to the general part of ploughing and harrowing, there is not a doubt but that horses are the most proper; but when farms are of such a size as to require horses to be kept for sundry odd jobs, &c. and have but work for two or three horses in a day, or two or three days in a week; it is then obvious, that oxen would be much more proper, as they would do that business, be kept at a much cheaper rate, and improve for keeping a year or two; thus they would keep earning a little, and save the expense of keeping horses, which must otherwise be kept, and be a continual expense. I do not think there is any saving at all, where a farmer keeps nothing but oxen to do the work of a farm; for as they certainly do less work in any given time than horses, the labour comes higher. A partial use of oxen would however prove very useful at particular times and seasons, such as seed time, &c. &c. The use of oxen would be found particularly beneficial in harrowing in seed, upon lea land, or old sward, with a large harrow; and from the pressure of their feet on the land, would be found far preferable to rolling. Many years since, in the county of Lincoln, my father was very partial to oxen; he never used them for ploughing, but they always were used in harrowing in seed, with a very heavy harrow, called an ox harrow, which seemed a very improper implement, being as much as a man could lift to get the dirt, &c. off the teeth; and went in a slow sliding manner, not working at all, as it is termed. I really at that time thought the method a highly improper one, and should still have been of the same opinion, had I not witnessed the failure of so many crops on soil, exactly similar, lately. I then began to recollect that my father's crop never failed; and having

seen the great use of treading land, whilst on my survey of this county especially, I was thoroughly convinced of the great utility of the system which I had till then nearly despised. My father used to be very particular in having his land ploughed in small square furrows; and then on the land being sown, had it harrowed in by this large harrow, with four or six oxen and a horse to drag it; by this means the land was trodden so firm, that none of the furrows laid hollow; from the slow manner the harrow went along, it did not lift up the furrows and bury the seed under them, as the working harrows too frequently do. I have often seen crops fail on tough sward land, when ploughed up and harrowed cross-way, and must confess, as the earth seemed to be so well pulverised by so doing, I have often wondered at it; but it was caused by the working harrow catching the edges of the sward, and letting the seed underneath it, where it must inevitably decay. Another advantage to be derived from thus employing oxen, is that a foal or two might be bred from some of the mares kept for the use of the plough, at the time the oxen could do the business of the farm, which might have occasion to be done at that season, until the foal was old enough for the mare to go to work again; this was also practised by my father. The keeping of our oxen did not cost us one penny, as they eat straw in the winter, and in summer were depastured amongst the ewes and lambs; and we certainly kept fewer horses, and used less corn than we must have done, had all the work on the farm been done by horses, as the oxen were used for carting hay, dung, wood, &c. &c. Our oxen were regularly broke in when they were two years old, worked two years, and made fat at five years old. I saw many instances during my survey, where oxen might have been thus used to very great advantage indeed. I have dwelt thus largely on this subject, for the reader's consider.

consideration of the necessity of avoiding, on a large farm, the extreme of using either all horses or all oxen; and the advantages to be derived from the partial use of the latter.

Having seen the general stock of the breeders and graziers in this county, and thinking the cattle to be very deficient in quality for the land they were grazed upon, and thinking it to be not only my duty to collect all the information I could for the consideration of the Honourable Board of Agriculture; but to extend that information as much as possible, that it might, through the medium of that honourable Board, be extended to the general improvement of the breed of cattle in the county of Rutland, and thus tend to the national advantage. With this view, I made a tour into Leicestershire, extending it into Derbyshire, examining all the breeds of the best long horned cattle I could find in those two counties, as they are some of the best breeders of that kind of stock there, that are to be found in the united kingdoms. From the zeal which I, almost in every part of this county, discovered in the breeders for an improvement of their cattle, I certainly entered with greater spirit into the endeavour to make my opinion as perfect as possible, by combining my own ideas, with the judgment and ideas of men of such ability as breeders as the following: Mr. Astley, Mr. Prinsep, Mr. Mundays, Mr. Knowles, Mr. Wrights, Mr. Honeyburn, and Mr. Coke, and several others, hoping thereby so to mature my own judgment as to be enabled to speak more decisively and correctly of the best means of improving the stock in the county. The grand object here, owing to the nature of the land and the distance from London, was to procure that kind of stock which should come quickest to perfection, being well convinced that long horned cattle are the most adapted to this end, I therefore pursued the track for them I have above mentioned. From the view

of Mr. Munday's cattle, I have to observe they are truly complete, though not large, yet such as I have for a long time thought the best, from their aptitude to fatten more quickly at all ages. The strongest proof of the perfection of Mr. Munday's cattle, is from his large park being near to Derby; for the conveniency of the inhabitants thereof, he takes in from 50 to 60 cows, and amongst this great number, there was not one amongst them which had the appearance of being in, what may be termed, a fattening condition, whilst those of Mr. M. were all thriving, and greater part fat. This was the most convincing proof of their value, the other cows being of a great variety of breeds. I was also shewn a cow of Mr. M's. which had given 14 lb. of butter per week, which in a cow of her great inclination to fatten, was very astonishing; but I am of opinion, from the latter circumstance, that the cow could not continue to do it for any length of time. The cattle which I saw at Mr. Prinsep's are very large, and certainly very superior to any other I saw, being remarkably long, noble, and grand beyond conception; some of the cows belonging to the dairy must weigh from 80 to 90 stone, 14 lb. to the stone, which has astonished me more than any thing I ever saw. To substantiate the merits of Mr. Prinsep's cattle, and to shew that I am not singular in my opinion of them, I have only to say, that he has refused 500 guineas for a two year old bull, and 1500 guineas for the use of his best bull to 30 cows. The breed is originally that of Mr. Fenwick, of Westmoreland, from whose stock, in the early part of my time, I bought a bull; and so strongly do Mr. Prinsep's cattle retain the features, that I challenged them, which caused Mr. P. to inform me from whence he had the breed. The first calf which the bull (I have above-mentioned as having bought) got, happening a misfortune, was obliged to be slaughtered when
under

under two years old, and sold in weights to different people, and produced 49 stone 5 lb. of meat, 14 lb. to the stone. I only make this remark, to shew that *like* is pretty sure to get like, and what may be done by care and attention. Mr. Prinsep told me he had received great benefit from a bull of Mr. Fowler's breed. Mr. Astley's stock is supposed, in size and perfection, to be between Mr. Munday's and Mr. Prinsep's. At Mr. Knowles's I was shewn a good dairy of cows, and a very good bull. At Mr. Wright's a good dairy of cows, and some very promising young bulls. Mr. Honeyburn shewed me what I think a very good bull. Mr. Cox shewed me a very good dairy of cows, and a very fat prize bull, which is to be killed about Christmas against a Hereford bull. Having thus briefly related what I saw in those counties, I now come to give my opinion upon what cross I should recommend to the breeders of this county, which is in favour of the long horned bull and Yorkshire cow, which from different trials and experiments, I know to be inferior to none, except it be the cross of the long horned bull and Hereford cow, which from coming to perfection sooner than the Yorkshire cow, is on that account preferable; the Yorkshire kind, either oxen or cows, requiring age before they arrive at perfection, so far the Hereford cow would be more advantageous; but as it would be much more expensive as a general improvement, the first must here have the preference. But even the long horned bull introduced in this county, and no particular alteration in the cows, would be attended with advantages beyond calculation almost; but to those breeders who wish to attend to profit, the Yorkshire cow will be far preferable; and in the choice of them, I should advise particular attention to be paid to milk, and even to have some form given up in them to this very profitable article. It would suit the breeders in Rutland very well

well to buy in Yorkshire heifers; and after taking two or three calves, fatten them, and buy in fresh ones. If a person wished to establish a breed, it would be proper to put the offspring of the short horned cow and the long horned bull to a short horned bull, if he wished to keep up size and milk; but to the long horned bull, if for flesh and early proof. I am inclined to think, that a large animal, with an aptitude to fatten, will, on fair keep, be as soon fattened as one of a much smaller size; for either Mr. Mundays' or Mr. Astley's cows, were, I think, as well kept as Mr. Prinsep's. Mr. Tomlin of Edithweston shewed me a polled Yorkshire cow, of a much larger size than any I had seen in Rutland, and she was, though she had been milked during the summer, much fatter than any I had seen, and the land certainly not so good. Now, though I am of opinion that animals ought to be chosen according to the strength of the land, especially where it is of a very good quality; yet I have met with many instances on land of but middling quality, where a large animal inclined to fatten will improve as much, and in as little time as a smaller one; of which this cow is a proof, and corroborates with what I have above stated. I am of opinion, that the large Durlam ox did not eat more food to raise him to that enormous size, than some others would to bring them to half the size or weight at the same age. Nor is it at all probable, that Mr. Lambert of Leicester, who arrived at such an astonishing weight, had eaten more food than Powell the celebrated pedestrian, who was a very thin man. From these observations, the natural conclusion is, that an animal for the shambles is seldom too large if he has an aptitude to fatten, and that much depends on the constitution of an animal in this respect. In my journey in Leicestershire I saw an ox, the property of T. M. Phillips, Esq. of Garendon, of the following dimensions;

Height

Height on the shoulder	16 hands 1½ inch.
Length from nose end to tail end . .	10 feet 6½ inches.
Ditto from top of head to tail . .	8 feet 11 inches.
Girth	10 feet 3½ inches.
Breadth across the loins	2 feet 11 inches.
Ditto across the chest	3 feet 3 inches.
Width between the fore legs . .	1 foot 9½ inches.
Girth of the fore leg	¾ inch.

Note.—On holding down his head, he measured 9 feet 10 inches from head to tail.

This ox was bred by T. M. Phillips, Esq. got by a bull of Mr. Honeyburn's, of the long horned Leicester kind, out of a short horned cow of the Yorkshire breed.—Aged six years; his computed weight 24 score per quarter; has never had any corn, oil, cake, or cabbage; was stall-fed the last year on tares and grass in part, but chiefly with hay of a coarse quality.

SECT. II.—SHEEP.

Parishes.	Breeds.	Wool. Fleeces to a Todd.	Old Sheep, No.	Lambs, No.	Total.
Ashwell	New Leicesters	4 to 5	2570	850	3425
Ayston	Mr. Fludyer 210 new Leicesters, remainder mixed	4	800	250	1050
Barleythorpe	Mr. Hand's new Leicesters, others mixed	4 to 5	1400	600	2000
Barrowden	Mixed	8	80	400	1200
Belton	Old and new Leicesters	4	700	300	1000
Bishbrooke	Mixed	Mr. Green's 4, others 5, 5 to 6	300	200	500
Bridge Casterton	Do.	5	560	240	800
Braunston	New Leicesters	5	600	350	1000
Brooke	Old Do.	4	1000	500	1500
Burley	New Leicesters	4	3000	1000	4000
Caldecot	Old Do.	4	1000	500	1500
Clipsall	Mixed	5 to 6	1000	500	1500
Cottesmore	Lincolns and Leicesters	4 to 5	1240	620	1860
Dry Stoke	Do.	4	1300	500	2000
Edithweston	New Leicesters	4	1500	800	2400
Egleton	Old Leicesters and Lincolns	4	1500	500	1800
Empingham	Do.	Mr. Syson half 3 and half 4, others 4½ to 5, 5 to 6	1300	700	2000
Essendine	Mixed	5 to 6	500	500	800
Exton	Do.	4	500	300	800
Flitton	Do.	5	250	150	400
Glaxton	Old Leicesters	4 to 5	1000	350	1350
Greatham	New Do.	5	600	400	1000

Parishes.	Breeds.	Wool, Fleeces to a Todd.	Old Sheep, No.	Lambs, No.	Total.
Thistleton .	Old Leicesters	. . . .	49,530	20,416	70,046
Thorpe .	Mixed	. . . .	800	200	1000
Tinwell .	Do.	. . . .	250	100	350
Tixover .	Do.	4 to 5	1200	400	1600
Uppingham .	Do.	. . . .	400	150	550
Wardley .	New Leicesters	. . . .	1000	400	1400
Wing .	Do.	. . . .	800	200	1000
Wessendine .	Lincoln and Leicesters	4 to 5	450	300	750
Witwell .	Do. Mixed	. . . .	3000	1000	4000
		4	300	150	450
	Grand Total		57,930	23,316	81,146

Brought forward . .

The sheep are nearly all of the polled long wool kind; in the open fields they are of a very inferior sort, and little pains taken about them. In the enclosures more attention has been paid. The breed is of the old and new Leicester, but in that part of the county near Lincolnshire, the Lincolnshire breed, with a cross of new Leicester, prevails. The prices given for rams are low, from 5 to 10 guineas may be called the usual price. Some graziers are very partial to the new Leicester, and most have a cross of them in their stock. The reason assigned for not liking the entire breed is, that it does not produce so much wool as the old Leicester. This is well authenticated by Mr. Godfrey, of Wardley, who is a very correct good grazier, and has been in the habits of buying the best year old sheep that could be met with at the fairs in this county: he shewed me his todd bills for the last 20 years; and, by way of substantiating the actual decrease in the weight of wool, he permitted me to take an account of two year's weight of wool 10 years ago; and for the last two years he has sold his wool.

Mr. Godfrey's Todd Bill.

1783 632 fleeces, 210 todts, being 208 todd of three
fleeces to a todd.

————— and 2 do. of four
do. do.

1784 613 fleeces, 210 todts, being 193 do. of three
fleeces to a todd.

————— and 17 do. of two
do. do.

1803 653 fleeces, 178 todts, being 118 todts of four
fleeces to a todd.

RUTLAND.]

R

1803

			and	60 do. of three
		do. do.		
1804	666 fleeces,	175 todods, being 135 todods of four		
		fleeces to a todd.		
			and	40 do. of three
		do. do.		

By the above account it appears, that wool has nearly declined in weight one-fourth; some people observe, in favour of light wool, that more money is obtained for it; be this as it may, I am of opinion, that the sheep in this county are smaller than they ought to be. The largest sheep I saw in it were by far the fattest; and I have, with a very few exceptions, in all other parts; from what I could learn too, the sheep have not only declined in weight of wool, but of carcase too, and this, though the land has been particularly improved for sheep. The fat sheep are sold at London, and at Melton Mowbray to go north. They are sold at two years old from turnips, and two years and a half from grass; very few being sheared three times. Folding is seldom practiced, except in the open fields. Some farmers give hay, some straw, and some nothing with turnips. The lambs are generally dropped in March and April, and weaned in September. Few fat lambs sold. The sheep are subject to a disease called the foot-halt; paring their feet, and applying butter of antimony is the remedy. Where there are a number of flies, the new Leicesters suffer very much from them. Sheep of this breeding being sometimes nearly ruined by them, whilst other sheep, though in the same field, have not been at all affected.

Generally speaking, the sheep in this county are very inferior, according to their food, being small in size, light
of

of flesh and of wool, and the latter of an improper sort, short and mossy; they are generally short in the carcase, their form in many instances; in other respects, being very improper; frog-eyed, very thin skin on their faces and legs, and but little or no wool on their bellies, from these circumstances, the sheep are very tender, suffering very much in the winter from the cold, and in summer from heat. They are in a state of continual torment during the latter season, from the flies, if they have not caps on their heads, and if they have not jackets after clipping, the sun burns them in such a way, that the pelt, or outward skin cracks, like to the outside of a roast pig, and becomes very sore. The cloathing for the sheep is a continual expense, and a very unnecessary one, as there is a sort to be found which have no occasion for cloathing, having a natural preservation against the heats of summer and the inclemency of the weather in winter; for no artificial means can preserve the frog-eyed sheep in that season, whilst the sheep which is thus protected by nature, will be found to be of a much better sort, of a fattening kind, thriving in all seasons, and having much more wool upon them. The frog-eyed sheep, which are thus called on account of their eyes being large and wide, and appearing to stand off of their heads, are a kind of dunk sheep, very bad feeders, and, although there are parts about them which would induce one to suppose them to be of a fattening kind, yet there are such decided marks about them to the contrary, that this supposition is but short lived, for their heads are short, a bad indication in many other fattening animals, foreheads broad; and their ears, though thin, are very often broad and shaped like the aspen leaf; their crag thin, with little or no flesh upon it, and extending from the head to the shoulders; their tails small, which is an indication of there being but little useful flesh along the back; that is to say,

from the thick or upper part of the *neck* to the *loin*, which is certainly the best flesh about a sheep. Now if a breeder wants to produce such sheep as these, I would ask, how would he proceed? Certainly by chusing a ram deficient in those two points. Since I returned to London, I have examined those sort of sheep when cut up by the cutting butcher, and have found that he disliked sheep of this form, saying, "Though the sheep appears light, yet when killed and cut up, they are even lighter, having less flesh on those prime parts, and less fat within them than could possibly be imagined, or than any other sort of sheep." It is further remarked by the cutting butchers, that the part called the *crag* is often found to be a continued mass of blood, proving entirely useless, consequently, obliged to be cut off and thrown away very often. It is supposed by them to be occasioned by taking hold of the heads of the sheep in handling, and that the sheep are so delicate, as not to bear such treatment. This may, however, not be the only cause, as it may be observed, that in these kind of sheep, the shoulder blades stand up high, and the back bone seems to hang loosely, so that when they move, or even as they stand, their heads totter in a manner similar to the human frame when attacked by the palsy; now the travelling to market under such circumstances, may partly be the cause of the bloody mass above alluded to; or from this defect in nature, it may be occasioned even by moving about in the pasture, as it may be observed, that the sheep have a very bad command of their feet, stumbling much and very frequently falling down. In travelling to London they frequently tire, and are generally to be found the last in the drove. Now from these sort of sheep having so little flesh upon them, what they have is chiefly fat; it is, therefore, an observation of the cutting butcher, that from there being such a small proportion of lean

be fat,

that great waste is occasioned. I have taken pains to sift this matter to the bottom, in order to guard the reader against these sort of sheep, being well convinced that much harm arises from the breed, and that good cannot. The form a sheep ought to be in is clearly, to have a small head with a thin visage, a quick eye, a small mouth, the forehead narrow, so that the eyes stand near together, and also the ears, which should be sharp, and as fleshy at the back part of them as nature will allow; let his shape be what it will, never to be thicker in the head than the neck; the vein in the neck can never be too strong or permanent, similar to that in a well made ox; to have a sufficient quantity of flesh, lean and fat, on all useful parts, as the animal which produces more fat than lean is of an unuseful kind; mutton being at this time 9d. per lb. and fat only 7d. per lb. which is a loss of 2d. per lb. In the next place, he should be so covered on the head with wool, as to be protected from the sun and flies. By wool on the head, I do not mean that it should be what is called "muffled," with wool under the ears and about the eyes, but that the sheep should have a smart topple; the legs to have wool, on the fore-leg as far as the knee, and on the hind-leg as far as the cambril; the belly should be covered with wool of a long good quality, not only for protection from flies, but for profit. All these things are to be acquired, with more useful fat, flesh, and wool on the sheep I have just described, than on the former ones; it is not that the weight of bone will be *greater*, but that it will be of *better form*. Although much has been said of the difference of the weight of bones in sheep, yet upon trial of this, particularly in the legs and shoulders, betwixt a large boned sheep and a small boned one, the difference has been so very trifling as not to be worth mention. This may arise from circumstances not generally known, as it was

proved by Mr. Bakewell that the bone of a race-horse was heavier than that of a dray-horse, though the bone of the latter appeared to be so much larger; the same may be the case in sheep. Having on my view of almost every flock in this county, both good and bad, but particularly every one said to be good, and seeing so many defects even in those best flocks, and that there were really more of those ducks in the best flocks than in the inferior ones; I paid the more attention, on my going into Leicestershire, to viewing both the rams and breeding ewes of the first ram breeders in the county, and was sorry to observe many of those defects amongst them which I have described in the county of Rutland. So true it is, that in all things various fashions have their turns, and thus it happens that the breeders having got too much in the extreme, have got wrong: as I have before observed, like will, in a great measure, get like; it therefore seems very strange to me, that when a breeder wants a ram to get sheep of 28lb. per quarter, with 14lb. of wool, that he should chuse a ram which would not weigh more than 18 or 20lb. per quarter, and has not more than from 5 to 7lb. of wool on him; or how, with the sort of keeping he means to give, the produce he can expect to accomplish the object he has in view. A ram breeder is like any other man who sells wares, and cannot be expected to depreciate his own stock, but, on the contrary, will do his endeavour to persuade the buyer it is the best; it only astonishes me, that he has power of persuasion over the buyer or hirer, against conviction. At one of the first breeders in Leicestershire, I saw a shearling ram shewn, which, had he been killed, would not have weighed more than 12lb. per quarter, nor have clipped more than 4 or 5lb. of wool. However, at another highly respectable ram-breeders, I saw rams which would have weighed from 40 to 50lb. per qr., and these were

were infinitely fatter than those small rams. Now, whilst I was in Leicestershire, it certainly was the general cry of the breeders, that they wanted both more flesh and more wool, that their sheep were all getting too little, and their wool lighter; it is self-evident, that a little sheep will clip less wool than a large one, and what is therefore wanting as a remedy. I observed the breeders, fearing that their eyes might deceive them, laid a stick along the sheep's backs to ascertain their length; nay, one in particular, with a rope, measured both length and girth.

I was informed by a ram breeder, that some time since a very great sheep feeder and jobber, having an old stick, with which he used to measure the length of sheep, on finding that Mr. Bakewell's sheep were shorter than the old breed, observed, that Mr. Bakewell would spoil the breed of the kingdom; but Mr. Bakewell was a most observing man, and had he been now living, would undoubtedly, not only have seen, but procured what is wanting. The minds of the breeders were turned, in a most astonishing way, by Mr. Bakewell; and at that time he most certainly procured a sort of sheep, which very much improved many large *coarse* sheep; but all extremes are wrong, and there ought to be no deception in trade; and although Mr. Bakewell used to maintain, "that the fat in the inside of a sheep was no profit to the grazier," yet he ought to have considered, that the grazier was not the last who was to have a profit, but that the butcher must come after him, and must have a profit too; if, therefore, he finds himself disappointed in any particular kind of animal, he will most certainly afterwards shun that kind, and buy that which pays him; thus, that deceitful kind of sheep, being first tried by one and then another, and thus universally found out, it is obvious, it will but fetch its *real value*, which must also be smaller. It is, therefore, evi-

dent, that the breeder, the grazier, and the butcher, are, as it were, embarked in one grand concern, and that it is to their mutual interest to serve each other as much as possible. To conclude, from what has been advanced, it will appear, that there is a medium in the breeding of sheep neither too fine or coarse, avoiding either of those dangerous extremes. Much depends on the time or age that sheep are kept to, ere they go to market; if sent away at half-a-year, or one year old, then a small *well-formed* sheep is fitter for that purpose than a large one; but when the sheep are kept until they are two or three years of age, size must be had, if the shape be not quite so complete, as when a sheep comes to be shorn three times, and from his compass alone, clips 5 or 6lb. of wool each time more than the small one, and keeps increasing in size, so as to weigh more by 5 or 6lb. per qr; it makes much difference to both the breeder's and grazier's profit; and there are also many rich lands in England where young sheep do not fatten well upon,

SECT. III.—HORSES.

Varities.	Breed, &c.	Horses and Mares. No.	Foals. No.
Ayston	Cart kind,	17	—
Ashwell	Do.	30	6
Barleythorpe	Do.	27	—
Barrowden	Do.	64	8
Belfon	Do.	30	—
Bishbrooke	Do.	50	20
Bridge Casterton	Do.	70	5
Braunston	Do.	50	8
Brooke	Do.	6	3
Carried forward		324	50

Parishes.	Breed, &c.	Horses and Mares. No.	Foals. No.
	Brought forward	324	50
Burley	Cart kind	36	8
Caldecot	Do.	20	—
Clipsbam	Do.	45	10
Cottesmore	Do.	50	10
Dry Stoke	Do.	4	6
Edithweston	Do.	24	6
Eggleton	Do.	16	—
Empingham	Do.	200	20
Essendine	Do.	40	8
Fxton	Do.	80	10
Graystone	Do.	20	6
Greetham	Do.	56	—
Gunthorpe	Do.	3	—
Hambleton	Do.	40	20
Ketton	Do.	60	3
Langham	Do.	60	20
Little Casterton	Do.	25	4
Lyddington	Do.	60	—
Lynden	Do.	10	4
Manton	Do.	31	10
Market Overton	Do.	30	10
Leafields	Do.	10	6
Morcot	Do.	40	2
Normanton	Do.	10	3
North Luffenham	Do.	65	6
Oakham	Do.	70	—
Pickworth	Do.	33	10
Pilton	Do. very good	21	4
Preston	Do.	36	6
Ridlington	Do.	27	2
Ryall	Do.	70	16
Seaton	Do.	56	14
South Luffenham	Do.	42	12
Stretton	Do.	40	10
Teigh	Do.	25	6
Tickencote	Do.	30	3
Thistleton	Do.	50	10
Thorpe	Do.	20	4
Carried forward		1879	319

Parishes	Breeds, &c.	Horses and Mares. No.	Foals. No.
Carried forward, ---		1879	319
Tinwell	Do.	70	4
Tixover	Do.	20	1
Uppingham	Do.	50	10
Wardley	Do.	5	1
Wing	Do.	20	—
Wissendine	Do.	60	—
Witwell	Do.	14	4
Total		2118	339

The horses which are bred in this county, taking them in the aggregate, are the most unprofitable sort I ever saw for sale, considering, that they are chiefly raised on enclosed grounds, which, from their quality, are capable of raising horses of great value, whether hunters, roadsters, coachers, or for the dray. In all my Survey, I scarcely observed a good broad mare, except at Mr. Chapman's; he had some black mares of an useful farming kind, not large enough for the dray, but would do for a stage waggon. The sort I saw, in general, were plain strong horses of various colours, and of all shapes, except real good shapes, and were "capable of drawing half a plough, and may be good slaves, but such as must fetch very little money at market." There are 2118 horses used for husbandry in the county, and 339 foals raised; now supposing the foals to be kept until they are three years old, before they are fit for use, there would be 3135 horses kept in the county; then suppose one horse out of ten to die in a year, there will be only horses bred in the county sufficient for its own use; which may be one reason why there is no spirit of emulation in breeding horses. Even supposing but one horse in twenty to die, there

would

would but be 150 horses for sale. However, the horses of Rutland are better calculated for farming uses than the large drag-horse, for that kind of horse is, of all others, the worst for a farmer's use. I should wish to recommend to the farmers of this county, horses possessed of better shape and action. As far as size and power goes, they appear very well, but action is very much wanted: a handsome horse is kept on as little or less food than one of an ordinary shape; and action is generally only to be obtained with good shapes. The horses I prefer, are those of all works, such as will, on occasion, carry their owners to market, draw the plough, cart, waggon, &c. A farmer in this county, instead of having horses which will sell but for £.20, should have such as would bring him £.40; and a forty-pound horse is much more readily sold than a five-pound one; for a good horse of any kind never wants a market at any season of the year; and a bad horse, at the beginning of winter, can scarcely be given away. I saw foals in the county that I would not have had as a gift, had I been obliged to have kept them whilst they were four years old; it very often happens, that by buying a good horse, and keeping him a few months, that there is more money got by him than a bad horse is worth. Horses are however kept at a very small expence, chiefly living at all seasons on what would be a waste. In the early part of the summer they are kept on pastures, where they eat a sort of grass which would not be eaten by other animals, and in the latter months before winter, on stubbles or eddish.

As a corroboration of my ideas, with respect to great attention being necessary to be paid to the *breed* of horses, I mention the following *fact*, of a grazier in the county of Rutland, who is in the habit of *buying* in horses at different fairs, having bought a horse in the month of May, for 60*l.*, and sold him in the month of August, at Horncastle fair, for 105*l.*

SECT. IV.—LIVE STOCK.

Parishes.	Hogs, Sect. vi.		Poultry, Sect. viii.		Pigeons Sect. ix. Hives No.	Bees Sect. x. Hives No.
	Breeds.	No.				
Ashwell	Mixed	50	For own uses	-----	-----	6
Ayston	Ditto	28	For own uses and sale	-----	-----	50
Barleythorpe	Ditto	40	For own uses	-----	-----	6
Barrowden	Ditto	150	For own uses and sale	-----	-----	20
Belton	Ditto	50	For own uses	-----	-----	12
Bishbrooke	Ditto	60	Ditto	-----	-----	30
Bridge Casterton	Ditto	90	Ditto	-----	-----	40
Braunston	Ditto	60	For own uses on the farms, and at the cottagers for sale	-----	-----	50
Brooke	Ditto	20	For own uses	-----	-----	1
Burley	Ditto	111	Ditto	-----	-----	30
Caldecot	Ditto	40	Ditto	-----	-----	20
Clipsham	Ditto	150	Ditto	-----	-----	20
Cottesmore	Ditto	80	For sale, raised by cottagers	-----	-----	20
Dry Stoke	Ditto	10	For own uses and sale	-----	-----	1
Falithveston	Ditto	60	Ditto	-----	-----	5
Egleton	Ditto	35	Ditto	-----	-----	20
Empingham	Ditto	1000	For own uses	-----	-----	1
Essendine	Ditto	40	Ditto	-----	-----	6
Exton	Ditto	200	For own uses on the farms, and at the cottagers for sale	-----	-----	5
Glaxton	Ditto	60	For own uses and sale	-----	-----	20
						30
						4
						20

Greetham -----	120	For own uses by farmers, by cottagers for sale -----	2	40
Gunthorpe -----	3	For own uses and for sale -----		
Hambleton -----	100	Ditto -----	5	30
Ketton -----	80			
Langham -----	100	For own uses -----	3	20
Leafeld -----	20			
Little Casterton -----	200	For own uses and sale -----	2	50
Lyddington -----	200	For own uses -----	1	50
Lynden -----	50	Ditto -----	2	10
Manoton -----	100	For own uses and for sale -----	3	20
Market Overton -----	100	For own uses -----	5	10
Morcot -----	150	For own uses and sale -----	3	50
Normanton -----	50	Here are raised annually, about 200 chickens and } 50 } 50 turkeys -----	1	6
North Luffenham -----	100	For own uses -----	4	20
Oakham -----	250	Ditto -----	2	20
Pickworth -----	100	Ditto -----	1	60
Pilton -----	50	Ditto -----	3	18
Preston -----	35	For own uses and sale -----	1	15
Ridlington -----	30	Ditto -----	1	2
Ryall -----	160	Ditto -----	6	50
Seaton -----	50	Ditto -----	7	20
South Luffenham -----	30	For own uses -----	6	10
Carried forward -	4412		98	901

PARISHES.	Hogs, Sect. v.		POULTRY, SECT. VIII.		Pigeons, Sect. 9. Hous. No.	Poultry, Sect. 10. Hives, No.
	Breeds,	No.				
Brought forward	-	4412			98	904
Stretton	Mixed	10	For own uses		1	50
Teigh	Ditto	25	Ditto		1	50
Tickencote	Mr. Wingfield, Suffolk, very good, others mixed	60	Darkling fowls very fine, and are bred by Mr. Wingfield		1	10
Thistleton		100	For own uses and sale		2	70
Thorpe	Ditto	50	Ditto		2	6
Tinwell	Ditto	20	For own uses		5	100
Tixover	Ditto	40	Ditto		1	6
Uppingham	Ditto	150	For own uses			50
Wardley	Ditto	16	Ditto			10
Wing	Ditto	18	Ditto		2	8
Wissendine	Ditto	60	Ditto		6	50
Witwell	Ditto	42	Ditto		1	20
Total	-	4091			150	1276

The hogs of this county are not of any distinguishable breed, and those which are kept, are chiefly for the consumption of the county; there is no breed particularly worth mentioning, except Earl Winchelsea's, which are of the Chinese white sort, and very good ones, and what is called in London the Suffolk breed, black at both ends, and white in the middle; and like the cattle which have that name, might be called sheet pigs; there are few pigs in the kingdom of a more profitable kind than those. Mr. Wingfield has some most excellent hogs from Lord Winchelsea's boar; I believe the reason Mr. Wingfield's excel my Lord Winchelsea's, is because he is a much better keeper. Lord W's. are not poor, but Mr. W's. pigs are all fat. It will be observed in the table above, that in general the hogs are of a mixed breed, consisting chiefly of a cross of the Chinese, and an inferior Berkshire, or some larger sort, which renders them not of a very profitable sort. The reason why there are not more pigs kept in this county, is because there is but little dairying; and it is singular, that although hogs will eat all sorts of refuse stuff, or what would be entirely wasted, few of them will pay for keeping, if the food for them be to be bought. Hogs, like other animals, are not worth keeping, if not kept well; take them from the first breeders in the kingdom, and starve them, it will require a very good judge indeed to find out the merits of such well-bred starved pigs, more so than in any other animals; consequently it proves, that a man ought not to have a pig, unless he has plenty of food for it.

SECT. VII.—RABBITS,

THERE are no warrens in this county, nor is there any proper for that use; nor are there any rabbits kept tame for sale as in the county of Bucks, where it may be observed in my Report of that County, great numbers are raised by the lower orders of society: their food being principally weeds, and nothing but attention required to raise any number, I should wish it to be recommended by gentlemen in this county to the attention of the labouring part of the community. The dung of rabbits is of great service laid on the clover crop.

SECT. VIII.—POULTRY.

IT will be seen that very little is raised in the county, except for domestic consumption.

SECT. IX.—PIGEONS.

PIGEONS are thought by many to be injurious to the interest of farmers, by the havoc made by them in seed and harvest time; but this obloquy seems not altogether to have been deserved, for in Nottinghamshire, where there are great numbers of pigeons, it was agreed amongst the farmers to destroy part of them, but experience discovered that the pigeons, so far from being an injury, were of great utility by picking up the seeds of weeds during the winter
in

in the fields, &c.; and as Nottinghamshire is a dry sandy soil, generally there are always great quantities of ground weeds; and pigeons prefer the seeds of weeds to corn when they can get them. To substantiate this fact, several pigeons were shot in the winter, and their craws being opened, were always found to be full of seeds; this being the case, the farmers once more rescinded their former determination, and restocked their dove-cotes. Pigeons are a very increasing tribe when properly managed; and their dung is of infinite service upon cold clay lands, no manure being before it. See Management of Pigeons, fully described in Experienced Farmer, edit. 1. vol. 2. page 64 to 72. The houses in this county are generally built of brick and brick nests, and some of stone; but neither of them are so good as timber and mud and basket work. Pigeons should never be served but in bentling time, nor ever in the house, as vermin is thereby tempted into the houses. Ashes should be thrown into the houses to intermix with the dung, as it is thus made to separate much better when carted out.

SECT X.—BEEES.

I HAVE received an account in this county, of 1176 stocks or hives of bees being kept, which redounds very much indced to the credit of the cottagers to whom this industrious insect must be a very great assistance; and as the bee gathers this assistance for them to the injury of none, every thing that can possibly be done for the further encouragement of the cottagers in this laudable and highly commendable pursuit, ought to be had recourse to by the higher orders of society; for it is not confined to individual

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benefit, but in a national point of view, is, and would be found very interesting, as this country has to buy much wax and honey from foreign countries, which there is no doubt might be raised at home. I should therefore wish to recommend to the higher orders of this county an ingenious publication by Wildman, No. 326, Holborn, near Middle Row, from which much useful information on the management of bees would be gleaned, and that cruel method of smothering bees (which is universally practised in Rutland) done away.

CHAP. XIV.

RURAL ECONOMY.

SECT. I.—LABOUR.

AT Ashwell, the labourer receives in summer 15s. per week, and one quart of ale a day; mowing grass, from 8s. to 3s. 6d. per acre, according to the crop, and two quarts of ale per day; in winter, labourers wages are 12s. per week.

At Ayston, labour in summer is 12s. per week, and so continues from grass mowing until the end of harvest; in winter, 9s. per week.

At Barleythorpe, in summer, 12s. per week and board; in winter, 9s. per week.

At Barrow, during harvest, wages are 21s. per week; in winter, 12s. per week.

At Barrowden, 8s. in winter, 9s. in hay time, and 12s. per week and board at harvest.

At Belton, in winter, 9s.; and in summer, 9s. per week and board.

At Bishbrooke, in summer, 9s. and board; and in winter, 9s. per week.

At Bridge Casterton, in winter, 12s.; and in summer, 15s. per week.

At Braunston, in winter, labourers receive from 9s. to 12s. per week ; and from 10s. to 12s. and board in summer; servant men from 12l. to 15l. per year; boys from 3l. to 6l. or 7l. per year; women servants from 2l. 10s. to 4l. or 4l. 10s. per year.

At Brooke, labour is from 9s. to 12s. in winter; and 18s. during the summer.

At Burley, 10s. in winter; 12s. in summer; 18s. at harvest per week.

At Caldecot, 9s. per week on an average for both winter and summer; but few yearly servants kept; not more than five boys and the like number of girls, boys receiving from 3l. to 6l.; and girls from 2l. 10s. to 4l.

At Clipsham, 12s. per week during winter; and 15s. in summer.

At Cottesmore, labourers 12s. per week; and 21s. per ditto during harvest; about three yearly servant men in each house, who are paid from 4l. to 15l. per man.

At Dry Stoke, labour 12s. per week, winter and summer.

At Edithweston, from Michaelmas to Lady-day, 12s. per week is paid to labourers; and from Lady-day to Michaelmas, 15s.; mowing grass, 3s. 6d. per acre; and from 2l. 5s. to 3l. for the harvest.

Egleton; at this place labourers have 6s. per week and board during winter; and in summer they generally work at piece-work.

At Empingham, from Michaelmas to Lady-day, labour is at 10s. 6d. per week; in summer, 12s.; and during harvest, 12s. and board; yearly servant men, 10l.; boys, 4l.; and women servants from 3l. to 5l.

At Essendine, labour 12s. in winter; and 15s. per week in summer.

At Exton, labour from 9s. to 12s. in winter; 15s. in
hay

hay and harvest; servant men from 12l. to 15l. per year; boys, 3l.

At Glayston, labour 12s. in winter per week; and 15s. in summer.

At Greetham, 12s. per week the year round, excepting the harvest month, when 14s. a week and board is given. Yearly servants; for a head or fore-man, 18l.; for a shepherd, 16l.; boys, 5l. per year.

At Gunthorpe, in winter, 12s.; during harvest, 21s.

At Hambleton, labour in winter, 10s.; in summer, 12s.; in harvest, 18s.

At Ketton, labour in winter, 9s.; in summer, 12s.; in harvest, 12s. and board.

At Langham, labour from 9s. to 12s. in winter; and in hay and harvest times, 15s. per week. Yearly servants; men from 12l. to 15l.; boys from 3l. to 7l.

At Leafields, labour 12s. winter and summer.

At Little Casterton, labour 12s. in winter; 15s. per week in summer.

At Lynden, 9s. per week, and small beer in winter; in summer, 15s. and *small beer*.

At Manton, labourers receive in winter 6s. per week with board, or 9s. without; and in summer, 12s. per week and board; from 3s. 6d. to 4s. per day, and beer, during harvest.

At Market Overton, 12s. per week the whole year.

At Martinthorpe, 10s. per week in winter; 12s. in summer; and 18s. in harvest.

At Morcot, 12s. per week in winter; 18s. in summer.

At Normanton, labour 10s. per week, except during harvest, when it is 18s. and small beer.

At North Luffenham, 12s. per week through the year, with the addition of board in harvest.

At Oakham, labour 12s. per week, winter and summer.

At Pickworth, labourers about 30 guineas a year.

At Pilton, labour 9s. in winter; and 12s. in summer.

At Preston, 9s. per week on the average.

At Ridlington, 12s. per week in winter; and 15s. and beer in summer.

At Ryall, ditto, ditto; women from 10d. to 1s. per day.

At Seaton, 8s. per week in winter; 9s. hay harvest; 12s. and board, corn harvest.

At South Luffenham, chiefly piece-work, 2s. per quarter for threshing barley, 3s. 6d. for wheat, and 2s. for beans; 18s. per week and board during harvest.

At Stretton, 10s. 6d. in winter; 12s. in summer.

At Teigh, 12s. in winter; 18s. in summer.

At Thistleton, 12s. in winter; 15s. in hay time; and 18s. during harvest. The hours of working from sun-rise to sun-set in summer; and in winter from light to dark.

At Thorpe, 9s. in winter; in hay time, 9s. and board; and in harvest, 12s. and board.

At Tickencote, labour is about 30 guineas per year, per man, in this parish.

At Tipwell, 12s. for both winter and summer, except during harvest, when 18s. per week is the average. Yearly servants; a head man, 16l.; others, 7l. or 8l.; boys, 4l.

At Tixover, 12s. in winter; 18s. in summer.

At Uppingham, 9s. in winter; and 14s. per week, with plenty of beer, in summer.

At Wardley, 10s. in winter; 10s. per week and board in summer.

At Wing, 7s. per week, and two meals per day in winter; 10s. per week, two meals and one pint of ale per day in summer.

At Wissendine, 12s. per week in winter; 18s. in summer.

Labourers

Labourers' wages average in this county, exclusive of board, beer, &c. which it will be seen is given in many parts of it; for the winter season, about 10s. 6½d. per week; for the summer, 13s.; and for the harvest, 16s. per week.

Labourers begin to work in hay and harvest times, at five in the morning, and continue till sun-set; and from six to six at other times, excepting in winter, when they work from light to dark. Women seldom go to work in the fields in winter; but in summer, field-work is their chief employment. Wages average from 9d. to 1s. per day. From 10l. to 12l. is given per year for a man who can plough and sow. Wages have risen considerably in this county within these last twelve years; yearly servants for husbandry having risen within that period from 3l. to 4l. per year.—The average price of piece-work in the county is as follows:

	<i>s. d.</i>	<i>s. d.</i>
Mowing Grass, from 2 6 to 2 9 per acre,		
Clover	1 6	- 2 0 ditto.
Barley	1 9	- 2 0 ditto.
Oats	2 0	- 2 3 ditto.
Peas	1 9	- 2 0 ditto.
Reaping Wheat . .	6 6	- 7 6 ditto.
Hoeing Turnips . .	5 0	- 7 0 ditto, 3 times over.
Threshing Wheat .	2 6	. . . per quarter.
Barley	1 8	. . . ditto.
Oats	1 0	. . . ditto.
Beans	1 0	to 1 3 ditto.
Peas	1 0	- 1 3 ditto.

Many farmers board their labourers in hay time and harvest; if they are hired for the whole time, then their

wages are from 9s. to 10s. per week; if only for the harvest, from 40s. to 60s. for the time.

SECT. II.—PRICE OF PROVISIONS.

THE price of beef, mutton, and pork, is nearly the same as in the neighbouring districts, and as near as can be ascertained, about one penny per lb. cheaper than in London; but when it is considered that the prime meat is sent to London, or sold at distant fairs, the price paid for the inferior sort is high. In all probability, the price of provisions will continue, in proportion to the times, without much variation.—The average prices of meat, &c. are as under, at Oakham.

	s.	d.	s.	d.
Beef, per lb. from . . .	0	5	to	0 8
Mutton, ditto . . .	0	6	-	0 8
Lamb, ditto . . .	0	7	-	0 10
Veal, ditto . . .	0	5	-	0 9
Pork, ditto . . .	0	6	-	0 8
Bacon . . .				1 0
Chickens, per couple . . .				2 6
Ducks, ditto . . .				3 0
Ditto, wild, ditto . . .				4 0
Pigeons, per dozen . . .				5 0
Butter, per lb. . .	0	8	to	1 3
Eggs, per dozen . . .	0	6	-	1 0
Cheese, per lb. . .	0	6	-	1 0
Flour, fine, per stone . . .				3 8
Ditto; second, ditto . . .				3 6
Ditto, coarse, ditto . . .				3 4

Green

	s.	d.	s.	d.
Green Peas, per peck . . .	0	6	to	1 0
Ditto Beans, ditto . . .	0	4	-	0 6
Carrots, ditto . . .	0	2	-	0 0
Potatoes, ditto . . .	0	4	to	0 6
Cabbages, per dozen . . .	0	6	-	1 0
Onions, per peck . . .	1	6	-	2 9

SECT. III.—FUEL.

COALS are now the general fuel of this county, which are brought up by the canal to Oakham.—They are however mostly used with wood; and there are, from my information, four or five parishes where wood is still the principal material for fuel.

CHAP. XV.

POLITICAL ECONOMY.

SECT. I.—ROADS.

ASHWELL, the roads are tolerably good. Ayston, pretty good; a turnpike road through the parish. Barleythorpe, the same; statute duty done. Barrowden, very good; a turnpike runs through the parish. Belton, the same. Bishbrooke, good; a turnpike six miles. Bridge Casterton, Brooke, and Burley, very good; a turnpike through the latter. Braunston, middling good. Caldecot, very good. Clipsham and Cottesmore, tolerably good. Dry Stoke, very good. Edithweston, not good. Eggleton, Empingham, and Essendine, very good; a turnpike through the latter town. Exton and Flitteris, tolerable. Glayston, very good; a turnpike through here from Stamford to Uppingham, and to Oakham. Greetham, good. Hambleton, tolerably good. Ketton, very good. Langham, tolerably good. Little Casterton, very good; a turnpike through the parish. Lyddington, tolerably good. Lynden, very good; an assessment of 9d. per pound for the repairs of the roads. Manton, Market Overton, and Morcot, tolerably good; a turnpike through the latter. Martinthorpe, bad. Normanton, very good. North Luffenham,

Luffenham, good. Oakham, the roads here are indifferent, being indicted. The materials for their repair, &c. are bad. Pickworth, middling; statute duty done. Pilton, good. Preston, very good; a turnpike through the parish. Ridlington, tolerably good. Ryall, very good; a turnpike through the parish. Seaton, middling. South Luffenham, very good; a turnpike. Stretton, very indifferent; the north road turnpike through the parish. Teigh, tolerable. Thistleton and Tickencote, very good. Thorpe, bad. Tixover, very good; a turnpike. Uppingham, very good. Wardley, very good; a turnpike; Wing, very good. Wis-sendine, good. Witwell, very good; a turnpike through the parish. The parochial roads are mostly ill-formed, being raised too high before the materials are laid upon them, and the materials laid on too large; therefore, must remain in a bad state until a better method is adopted. The turnpike roads too are badly formed, and not in good repair. The materials for their repair, which are generally stone, are laid on in the autumn and winter, instead of the spring; levelling the sides of the road for the carriages to pass upon in the summer, would be of great benefit to the roads; but this is neglected, which ought not to be, as, by the roads being repaired in this way, they would have a long time to settle, and be in good order against the winter.

I observed, that where enclosures had taken place, and new roads had been formed, especially if it happened to be over ridge and furrow, that the greater part of the land allotted for the use of the road was rendered *useless*; for though there were 40 feet appropriated for the purpose of a road, yet, from their method of making the road, which is by raising a very high bank in the middle, with two steep sides, leaving on each side a space like unto a fence ditch, and betwixt each of these spaces and the out-side.

side boundary of the road, is left a high narrow ridge, entirely useless to the road ; the middle part not more than from nine to ten feet in width, is the only space out of the forty feet which is usable ; this space is covered in a flat manner with large stones ; a track, or hollow place, is soon formed on the top or middle of it, by the horses in carts, &c. and ruts of considerable depths on the sides, so that it is impossible to quarter with a single-horse chaise, but the traveller must keep the wheels of the vehicle in the ruts, by which both he and his horse are thrown and tost about in the most horrid manner imaginable ; a chaise and pair has much greater difficulties to encounter, for as the horses cannot quarter, they go jostling one against the other, and keep slipping into the deep ruts, and are thus liable to fall every step they take, at the imminent risk of breaking the carriage, harness, &c. &c. By what I have stated, the reader will easily picture to himself the hazard there is in one carriage passing another on such roads, for, from the steepness of the sides of the bank I have already described, it is impossible to travel on them ; but on meeting any other vehicle, each traveller is obliged, at the risk of being overthrown, to draw out of the ruts, which is not effected without difficulty, and give way by drawing partly on the slope, whence the water is prevented from draining off into the side drain, by those ridges on each side of the road, which are also too narrow for any carriage to pass upon ; and even if a horseman attempts to go upon them, from there being hollow bad places in them, and if he once gets on them, he cannot easily get off again ; he is in more danger than though he were to leap over the side ditches into the fields on each side ; on the whole, a worse system could not be pursued. On a new enclosure taking place, the greatest attention ought certainly to be paid to the formation of the roads, which should

should be formed with a regular rampart, gradually declining from the middle to each side, so that a carriage might pass along on any part of the road, and thus make the whole of the road usable, and the water regularly drain from off the whole of the road into the drain by the side of it; the two sides of a road would then in the summer be as good or better, than the other part of the road, and might therefore, be used all that season, whilst the other part being properly attended to in the spring, in common with the sides of the road, and being covered in a proper manner with stones, &c. would have time to settle and become very good against the ensuing winter. Where ridges and furrows occur, there ought to be faggots laid at the bottom of the furrows, and covered with earth before the stone is laid on; thus the water drains away, and a good foundation is laid, so that should wheels even penetrate through the stones, &c. there is still something for them to bear upon. From the observations I have made in this county, I am of an opinion, that thirty feet is a better width for parochial roads than any larger space, there being in that space sufficient width for any number of carriages which are ever likely to meet, and is more likely to be formed in a proper manner, than as though it were wider, and consequently required both more expense in forming and keeping in repair; and from the whole of the road being in continual use, it would all be kept in good repair; for when once a road is well formed and made, the expense of keeping it in repair, is but comparatively trifling.

SECT. III.—CANALS.

THERE is a navigable canal in this county, made by act of parliament, passed in 1793, for extending the Melton Mowbray Canal to Oakham, the centre of the county, which proves of great benefit to it; but if it were extended to Stamford, would be of the greatest advantage, not only to Rutland, but the community, by uniting the Trent with the Welland, which runs through all the Fen country to Boston, and would be the best means of supplying the manufacturing part of the kingdom with corn. The canal is frequently defective in the summer season, from the very scanty supply of water. From my view of the county and the hills which surround the canal, I am of opinion, that an able engineer would obtain by Elkington's System of Drainage, an ample supply of water; should this, on trial, prove to be the case, the advantages would be immense, not only to the canal, but to the lands below those hills, which are very wet: thus two birds would be killed with one stone, and the expense could by no means be equal to the advantage.

SECTS. IV. and V.—FAIRS AND MARKETS.

OAKHAM has a fair for horned cattle and sheep, on the 16th of March; on the 6th of May for do. do. and a shew of stallions; and on the 9th of September, for horned cattle, sheep, and wine. It has a market weekly, on Saturday, tolerably supplied with all kinds of provisions. There are also at Oakham the following

lowing new meetings established for the sale of cattle, &c. January 25th, February 18th, April 14th, June 14th, July 3d, August 18th, November 19th, December 15th.

N. B. Fairs or meetings falling on Sunday, are kept the day following.

Moveable Meetings.—Monday before Whit-Sunday; Saturday in Whit-sun. week; Saturday before the third Monday after the fifth of July, for horses, &c. Monday after old Michaelmas.

UPPINGHAM has two fairs annually; March 7th, and July 7th, for horses, cattle, sheep, and coarse linen-cloth, home-spun. It has a good market on Wednesdays.

SECT. VIII.—MANUFACTURES.

No manufacture is carried on in this county of any account. Want of water, and scarcity of fuel, are the only reasons, and not want of inclination, spirit, or property in the inhabitants of the county.

SECT. X.—SEE PAGE 162.

SECT. XI.—POPULATION.

THE county is neither over nor under peopled; population rather increased, but in no greater proportion than there is employ. It is also a most healthy county; there being but one answer to this question, in any part of it, which was, that it was healthy in the highest degree. To my

my enquiries respecting the food and mode of living of the lower orders, I find, that in this respect, they are rather above than under par in every parish; beef, mutton, and bacon, with barley bread, or in some parishes, barley and wheat mixed, being their food.

The following Table, exhibiting at one view, the Number of Inhabitants in the County, Male and Female, with their Occupations, is extracted from the Returns made in the Year 1800, under the Population Act.

HUNDREDS.	PERSONS.		OCCUPATIONS.			TOTAL.
	Number of Males.	Number of Females.	Persons employed in Agriculture.	Persons employed in Trade, &c.	Persons not comprised in the two foregoing Lists.	
Alstoe . . .	1774	1861	877	357	2401	3635
East	1443	1462	1067	216	1622	2905
Martinsley .	1514	1605	477	436	2206	3119
Oakhams . .	1640	1760	581	351	2438	3400
Wrandike . .	1607	1690	993	563	1741	3297
	7978	8378	3995	1923	10438	16356

The following Account of Baptisms, Burials, and Marriages, from 1700 to 1800, each inclusive, is taken from the Returns made under the Population Act:

Yrs.	Baptisms.		Total.	Burials.		Total.	Marriages.		Marriages.	
	Males.	Females		Males.	Females		Yrs.	No.	Yrs.	No.
1700	234	232	466	144	133	277	1754	77	1783	101
10	177	204	378	127	107	234	5	118	4	108
20	179	191	373	197	199	396	6	109	5	115
30	211	176	387	177	162	339	7	120	6	103
40	182	176	358	127	104	231	8	93	7	109
50	191	213	402	14	136	260	9	96	8	126
60	192	210	402	153	151	304	60	105	9	121
70	207	197	404	157	155	312	1	108	90	113
80	227	213	440	239	224	473	2	115	1	116
1	217	206	423	179	195	374	3	128	2	119
2	223	191	414	182	173	355	4	100	3	113
3	227	216	443	190	203	393	5	103	4	133
4	227	240	467	184	187	371	6	100	5	103
5	221	223	444	177	190	367	7	94	6	109
6	236	221	457	167	180	347	8	94	7	121
7	269	218	487	173	197	371	9	109	8	131
8	242	203	445	186	156	342	70	130	9	139
9	250	223	473	161	157	318	1	113	1800	127
90	277	239	516	143	150	293	2	98	Average 110	
1	202	231	433	125	159	284	3	92		
2	218	247	465	151	131	282	4	110		
3	232	231	463	153	152	305	5	109		
4	238	241	479	129	181	310	6	116		
5	235	230	465	149	175	324	7	105		
6	250	232	482	142	144	286	8	97		
7	270	213	513	180	202	382	9	157		
8	268	244	512	157	188	345	80	107		
9	236	243	481	142	178	327	1	128		
1800	239	228	477	146	155	301	2	92		

The above Table gives an average of 447 Baptisms and 328 Burials, leaving an average increase of 119.

SECT. X.—POOR.

WITH respect to the poor rate, there seems to have been no material increase in the greater part of the parishes in this county. The parish of Bishbrooke is, however, an exception, as the rate has risen there, in the space of seven years, from 50*l.* to 200*l.* At Preston the rates were said to be on the advance. On the other hand, in the parishes of Lyddington and Wing, the rates have decreased. There are several friendly societies, which are much encouraged by gentlemen; the poor industrious man has it in his power, by becoming a member of them, to purchase a comfortable support in old age, sickness, or infirmities of other natures. Such societies, undoubtedly, are a public good, and greatly ease the poor's rates. There is also another society, to which too much praise cannot be given, entitled the Society of Industry, the beneficial effects of it having expanded themselves in very many respects throughout the county. For the institution of this excellent society, the county is indebted to the zeal and public spirit of the Reverend Thomas Foster, of Tinwell; he proposed it, and has taken, and continues to take infinite pains in promoting it; and by him I have been favoured, in the most obliging manner, with the following account of the establishment of the society, and of the proceedings in it. At a meeting held at Oakham in September, 1785, it was resolved to adopt a plan, which had been carried into execution with great success by the Reverend — Bowyer, in the county of Lincoln*; and the following resolutions were agreed upon,

* Mr. Secretary Young, in his very able Report of the County of Lincoln, notices the plan having nearly failed in that county, which he attributes to the removal of its proposer, Mr. Bowyer, to Durham.

and ordered to be made public in the county of Rutland :

- I. That every parish be requested to subscribe a sum, amounting to the proportion of one per cent. upon the poor rates of last year, and to authorise (at a vestry to be immediately called for that purpose) the overseer of the poor, to pay the said subscription into the hands of the nearest chief constable, before the 10th day of November.
- II. That individuals be solicited to subscribe the sum of five shillings each annually, larger sums to be received as benefactions.
- III. That a meeting be holden at Oakham, on the 14th day of November next, to chuse a committee for the management of the business.
- IV. That premiums, consisting of cloathing, be given from the said subscription, to such children, of certain ages and description, as in a given time shall have produced the greatest quantity of work of different kinds, and of the best quality.
- V. That when any young person shall go out to apprenticeship, or to service, or shall be married with the approbation of the committee, such persons shall receive not less than 5l. nor exceeding 10l. if he or she shall have received three of the annual premiums given by the committee ; not less than 2l. nor exceeding 3l. if he or she shall have received two of the annual premiums ; and not less than 30s. nor exceeding 2l. if he or she shall have received one premium.
- VI. That premiums, at the direction of the committee, be given to those day-labourers, who bring up four or

ham; the very flourishing state of the society in Rutland will, I think, prove the observation to have been very just.

more children, born in wedlock, to the age of fourteen years, without relief from the parish.

VII. That as the most effectual means of preventing families becoming chargeable, it be strongly recommended to the parish officers, to furnish (gratis) wheels to those persons who wish to employ themselves, although they should not be chargeable to the parish; and to order the teachers in the work-houses, to allow them free admission into the spinning room, and to teach them (gratis) and that the profits arising from the work of such children be for the benefit of their parents.

At a general meeting of the county, on the 14th day of November, 1785, a committee was appointed, consisting of twenty-three persons, who undertook the management of the business for one year. The committee having at their next meeting, on the 10th day of December, ascertained the number of subscribing parishes to be forty-six, proceeded to divide them into five classes, having regard to neighbourhood, and to the amount of the parish rates; and each member of the committee undertook to superintend* one or more parishes.

It appearing to the committee, at the meeting on the 7th day of February, 1786, that the sum of 208l. 19s. 4½d. (which consisted of benefactions, 112l. 4s. 3d. annual subscriptions of 5s. each, 67l. 17s. 3d. and parish subscriptions of 1 per cent. of the poor's rates 28l. 17s. 10½d. had been received by their treasurer, they resolved that

* Those who undertake to superintend the parishes, are called trustees, and it is the business of a trustee to acquaint the children of the parish, which he superintends, with the rules and orders of the committee; to take care that the work required to be done, be punctually performed; to collect the subscriptions and benefactions, and prevent any imposition that may be attempted to be made upon the Society.

22l. 19s.* should be allowed for the present year, to each of the five classes, to purchase cloathing for those children who should be found to be the most industrious. On the 27th day of May, 1786, the committee proceeded to the distribution of the premiums; the number of † candidates amounted to 236.

Money allowed by the Committee, in each Year, for purchasing Cloathing.

	£.	s.	d.
In 1786 . . .	108	9	0
1787 . . .	104	6	0
1788 . . .	104	6	0
1789 . . .	83	5	0
1790 . . .	83	5	0
1791 . . .	86	5	0
1792 . . .	88	10	0
1793 . . .	92	5	0
1794 . . .	92	5	0
1795 . . .	106	0	0
1796 . . .	117	5	0
1797 . . .	117	5	0
1798 . . .	117	5	0
1799 . . .	117	5	0
1800 . . .	117	5	0

* This sum was divided into 25 premiums, making in the five classes 125 premiums.

† A certain quantity of work is required to be done in two months before any child can be admitted a candidate; and a person well acquainted with spinning and knitting is appointed to see each candidate spin or knit one hour, which hour's work is produced to the committee, on the day the premiums are disposed of.

	£.	s.	d.
1801 . .	117	5	0
1802 . .	117	5	0
1803 . .	117	5	0
1804 . .	117	5	0
1805 . .	124	10	0
1806 . .	124	10	0

The foregoing sums give an average of 107l. 5s. 9d. and a fraction for cloathing in each year.

In the year 1794, the Society thought proper, as a greater encouragement to industry, to give to every unsuccessful candidate, being a spinner of jersey or hemp, two shillings and six-pence; and in the year 1800 to every knitter one shilling and six pence. The following is an account of money thus expended.

	£.	s.	d.
In the year 1794 . . .	17	10	0
5 . . .	20	0	0
6 . . .	21	12	6
7 . . .	23	10	0
8 . . .	21	0	0
9 . . .	22	7	6
1800 . . .	31	8	6
1 . . .	32	19	6
2 . . .	33	12	6
3 . . .	24	11	6
4 . . .	28	12	6
5 . . .	28	5	0
6 . . .	18	15	0

Yielding an average, for the first six years, of 21l. in each year, and for the next seven years of rather more than 28l. 6s. 4d.

Amount

Amount of Premiums given to Labourers, who brought up not less than four Children born in wedlock, to the age of fourteen, without Relief from the Parish.

Year.	Number of Labourers.	Number of Children.	£. s. d.
1786	2	15	4 4 0
7	4	24	15 4 6
8	5	27	16 16 0
9	7	34	17 17 0
1790	5	23	12 1 6
1	2	10	5 5 0
2	1	7	4 4 0
3	1	2	1 1 0
4	4	15	7 17 6
5	7	25	13 2 6
6	1	4	3 0 0
7	2	8	6 0 0
8	1	7	5 5 0
9	6	18	13 10 0
1800	3	12	9 0 0
1	1	4	3 0 0
2	5	14	14 14 0
3	1	4	3 3 0
4	0	0	0 0 0
5	5	19	15 0 6
Average.	3	14	8 19 3

Amount of Premiums given to Female Servants, in addition to Premiums which they have received from this Society, for having been the best Spinners of Jersey in their respective Classes, and who have remained in the same Service one Year, and produced a Certificate of their good Behaviour in such Service.

Year.	No. of Servants.	£.	s.	d.
1788	3	4	10	0
1790	5	7	10	0
1	1	1	10	0
2	3	6	10	0
3	1	1	10	0
4	3	6	0	0
5	1	1	10	0
6	2	3	0	0
7	4	7	0	0
8	1	1	10	0
9	3	5	10	0
1800	4	10	10	0
1	1	1	10	0
2	5	7	10	0
3	1	1	10	0
4	4	7	0	0
5	1	1	10	6

The Number of Candidates in the different Years are as follows :

Year.	Spinners of Jersey.	Spinners of Linen.	Knitters.	Total.
1786	211	3	22	236
7	302	9	37	348
8	257	15	60	332
9	203	8	29	240
1790	232	15	40	287
1	263	19	57	339
2	279	15	69	363
3	261	21	89	371
4	253	27	66	346
5	272	32	104	408
6	301	27	120	448
7	300	31	193	524
8	284	37	167	488
9	290	40	155	485
1800	336	36	139	511
1	The number of candidates were omitted in the minute books these two years.			
2				
3	273	49	169	491
4	251	50	204	505
5	273	35	211	519
6	190*	45	202	437
Average	265	27	112	404

* The decrease in the last year in the number of candidates for spinning jersey, is owing to the low wages that are given for spinning that article, so that few children are employed.—N. B. The Society have six hundred pounds in the funds.

CHAP. XVI.

OBSTACLES TO IMPROVEMENT.

SECT. I.—RELATIVE TO CAPITAL.

THERE seems to be very few instances of a want of capital in this county. The land being generally well stocked, and as little waste committed in consuming its produce as in any part of the United Kingdom.

SECT. II.—PRICES.

THE prices of the various articles necessary for improvement, rather low than otherwise.

SECT. III.—EXPENSES.

THE expenses are also low according to times, when compared with many other places in the kingdom.

SECT. IV.—WANT OF POWER TO ENCLOSE.

THIS, together with the expense of obtaining that power, is a general grievance.

SECT. V.—TITHES,

THESE are, in so many lights or points of view, such obstacles to improvement, and so universally declared to be such, not only in this county, but in all counties that ever I was in, that it may perhaps, be deemed superfluous for me to dwell longer on the subject than merely to say, I found them a severe preventive to improvement in agriculture, in the county of Rutland, and also to the increase of population; and that, therefore, it were most earnestly to be wished, that some *equitable* means could be devised for their commutation. Many hundreds of acres are kept in grass, carrying only one ewe and a half, (to raise lambs) per acre, when in pasture; and producing, if in meadow, about one ton of hay per acre; which, were they exonerated from tithes, would be pared and burnt, and brought into tillage, not only producing many valuable crops, but from the straw being properly made into manure and compost, and laid on the land, would be much improved, at the same time, that the community would be largely benefited both by the production of large crops of grain, and *more stock* also, being kept per acre, and where only one man and two boys had been employed, there would be one hundred people comfortably maintained and employed. I could bring forwards many instances in support of what I have asserted, but the following, which has occurred very recently, is so much in point, that I shall content myself with producing it alone, as an elucidation of the truth of what I have asserted, hoping, that it will prove satisfactory to the reader. On an enclosure of some old common land, of the description I have above alluded to, fifty acres were allotted to a most intelligent and spirited young

furrow

farmer of the new school; he immediately set to work, and after a very extraordinary expense, in paring, burning, &c. amounting to near £.365, raised a crop of rape-seed, which brought him in £.800 and upwards; he has since had a crop of oats which are estimated at 10 qrs. per acre. Now here is so striking a difference in what would have been produced, and what has been produced, that it must strike conviction to every impartial observer. At the best that would have been done under tythe, the land might have been ploughed, but without those expensive improvements having been entered into; for the farmer would have reasoned thus: I am laying out great sums of money at a risk, and after all, should I be successful, I shall have the tithe-man for a partner in the honest profits of my industry; and in this instance, the tithes would have been £.80, which, in all probability, would have induced the tithe-man either to raise his commutation to a much greater height, or to have taken his tithe in kind. I do not mean to say, that this would be done universally, but it would too frequently; and thus the farmer pays for his own laborious and expensive improvements; it is also natural to any one to expect a man who is to have a share in the profits of any concern, should bear his share of capital and of risk; but the tithing-man does neither, but bears away a large proportion of the profit, for which he never toiled; thus then reasoning, this land might have been ploughed as I have before observed, but without those necessary, though expensive preparations, and would have been sown with oats, the produce would have made only £.300, (it may be necessary here to observe, that an occupier of land, managing after the old school, did, notwithstanding the advantage of his land being exonerated from tithe, plough up a piece of land of like quality, and *adjoining* to the land I have just spoke of, which produced 800l. and sow it with

with oats, and the land was but barely *covered* with the crop, and scarcely worth reaping) and by the tithe taking away one-tenth part of the straw, the land would be robbed and become poorer every year, whilst at present the tithe being exonerated, it will be gradually improving, and yielding annually an immense source of nutriment and profit to the community, as well as rewarding the industrious merits of the cultivator. It is from the cultivator not receiving the *whole* of the reward attending improvements, that so many thousands of acres lie in grass unimproved, and produce but from 5l. to 7l. per acre, where from 10l. to 15l. might be raised. There is but little doubt that one acre of tillage produces more food for the community at large, than five acres of grass, for pork, poultry, and greater part of the winters beef and mutton are raised from tillage land.

SECT. VI.—RELATIVE TO POOR RATES.

THESE are lower in this county than in most others, and indeed lower than can be expected, according to the price of provisions.

SECT. VII.—WANT OF DISSEMINATED KNOWLEDGE.

I DO not find this to be wanting in this county so much as in many others.

SECT. VIII.—ENEMIES.

THESE are red worms, grubs, &c. and a species of *louse* on beans and peas; the means of prevention, as I have

have before said under the head of the FLY in TURNIPS, is by so preparing the land, that it shall not be proper or calculated for the reception of the egg, or seed of their parents; and this is alone to be effected, at least as far as my present experience allows me to speak, by rendering the land cohesive, and the application of such other chemical and *medical* assistance as the nature of the soil may require. I here wish to say a word or two in favour of a tribe which the farmer has long been at enmity with, and I think very improperly so, I mean rooks, which I have found from experience, are a very necessary auxiliary in the destruction of those devouring reptiles, and do all they can to exterminate them; but this is an impossibility, for an attempt might as well be made to destroy all the fish in the sea; but however, what little harm they do to crops in this their pursuit, is very abundantly recompensed by the good they do in the partial destruction of the reptiles and insects which infest and destroy those crops. I have seen a clover crop, on which, whilst springing up and growing, there were thousands of rooks, thrive and flourish in a most astonishing degree; and have known a crop of oats which was positively covered with rooks at that time when they are said to do such harm, yet, nevertheless, the crop at harvest was most abundant: it was here in these two instances evident, that the rooks, at the time they haunted the land so, were in pursuit of grubs, worms, &c. and were in consequence, advantageous to the interest of the farmer.

CHAP. XVII.

MISCELLANEOUS ARTICLES.

THERE are no agricultural societies in this county, which is much to be regretted, as they are a very great spur to emulation in all farming improvements; for when such meetings are held, many farmers are induced to come from distant parts, and thus reciprocal information is gained. By shews of animals, a man forms from comparison a better judgment of his own; and if he finds others to excel him, he begins to think why and wherefore, and then adopts the necessary steps for improvement, thus is a very great object gained; for if "you can get a man to think," was one of Mr. Bakewell's best maxims, and much good may follow. From the conversation which passes at such meetings, a man obtains such ideas as very probably he never otherwise would have had; for as well informed as Mr. Bakewell might be, he never suffered public agricultural meetings or shews of cattle to escape his attention, which evidently demonstrates that he thought himself benefited by such attendance. Farming is a living science, and keeps daily improving, therefore no one ought to imagine that he has arrived at the summit of perfection; for though he may be doing something superior to his neighbour, yet he ought to act like a swift race horse, keep his ground,

ground, or some slower paced horse will pass him; on this account, societies for the improvement of cattle, sheep, horses, pigs, implements of husbandry, &c. ought to be instituted and upheld in every county; for although the good tendency of those already established has been disputed by several, and others go so far as to say, harm has been done by them, inasmuch as encouragement has been given by them to make cattle, &c. so fat, that they cannot be eaten, yet I never knew a proof of such assertions given; and I do not believe there has ever been an instance of either, cattle, sheep, or hogs, having been turned out of market for being *too fat*; on the contrary, it is but very seldom that a very prime animal stands long unsold in *any market*, and this remark applies more especially to Smithfield; for if a person looks into that market after ten o'clock, though it be on one of the flattest market days in the year, yet he will rarely find a good fat animal unsold. I attribute the badness of the implements made use of, and the badness of the farming near to London, chiefly to the circumstances of the farmers having generally seen none but their own, or some similar. To sum up all in one short sentence; a man may sit down by his own fire side, until he fancies he knows every thing, whilst he actually knows nothing, compared with what he ought to know.

Since I wrote the above, I have been informed that there is an agricultural society, entitled, The Leicestershire and Rutlandshire Agricultural Society, meeting at Oakham and Melton Mowbray alternately; I therefore procured the following account of their proposed premiums, &c.

At a meeting of this society, held at the George Inn, Oakham, on the 27th of November, 1806, Col. Noel, chairman.

The

The following Premiums were proposed to be offered for 1807:

To the person who shall produce the best estimate of the comparative advantage between the use of oxen and horses, in husbandry work, 25 guineas.

To the person who shall make the best comparative experiment between the effects of fresh dung and rotten dung, arising from the same species of animal and forage; upon grass land, within one year, the extent being not less than one acre for each kind of dung, 10 guineas.

N. B. Dung not to be considered as fresh after the third day.

To the person who shall, on the annual meeting for 1807, produce a pen of five of the best fat shearlings, to have been fed with grass, hay, or roots, and not to have had corn or cake, 10 guineas.

For the second best pen of the same, 5 guineas.

For a pen of five of the best two year old wether, 10 guineas.

For the second best pen of the same, 5 guineas.

For a pen of five of the best ewes, to be shewn at the annual meeting for 1807, which shall have produced and reared lambs at two years old and the following year, the lambs not being taken from the dams till Midsummer old style in each year, to have been fed with grass, hay, or roots, but not to have corn or cake, 5 guineas.

For a pen of the same number of ewes, which shall have been kept on natural grass alone, 5 guineas.

For the best conducted experiment for ascertaining the relative profit of different breeds of sheep, in wool and carcase, strict attention being paid to the quantity of food each breed has consumed, the weight and value when put

RUTLAND.]

N

up

up to feed and when taken off, being specified, and to have been fed with artificial food, with the exception of corn and oil cake, 10 guineas.

For the second best experiment, 5 guineas.

For the best conducted experiment for ascertaining the relative profit of different breeds of sheep, in wool and carcase, the same attention being used in this as in the last class, to ascertain the quantity of food consumed, the weight and value of the animals when put to feed and taken off; to have been bred and fed on natural grass alone, 10 guineas.

For the second best experiment, 5 guineas.

N. B. These premiums will not be allowed, unless the experiment in every case has extended to at least five shear hogs of some distinct breed.

For the best ox under three years old, the time when calved being ascertained as nearly as may be, 6 guineas.

For the second best, 4 guineas.

For the best ox under four years old, 5 guineas.

For the second best, 3 guineas.

N. B. To have been fed with grass and vegetables.

For the best ox that shall have been worked from three years old off, to six years old off, or longer, the age being specified, 8 guineas.

For the second best ditto, 4 guineas.

N. B. To have been fed with grass and vegetables, or oil cake; but in case the latter has been used, an account of the quantity consumed to be produced.

To the person who shall make the best experiment and shortest report on the practical effects of lime on the various sorts of land, 20 guineas.

To the person who shall state the best manner of forming compost dunghills, mentioning their materials, quantity, and place, 5 guineas.

For

For the best conducted experiment, ascertaining the relative advantages to be derived from soiling or grazing cattle in the usual way, 10 guineas.

For the same experiment with sheep, 10 guineas.

To the person who shall have cleared not less than five acres of land from ant-hills, within one year, in the best and most effectual manner, the expense being stated to the Committee, and it being understood that no premium will be allowed without proof of the efficacy of the measure for three years, 20 guineas.

The following Premiums are proposed to be offered for
Servants :

To the person having had the care of sheep to be exhibited for the premiums, and that shall appear to have rendered the most effectual service to his master in the capacity of a shepherd, 3 guineas.

N. B. The claim for the premiums to be accompanied by a testimonial from the master as to the good conduct of the man; which testimonial is to state the number of sheep under such servants' care, the number of lambs reared, and other circumstances connected with such servants' duty, so as to enable the Committee to form a correct judgment of his merit.

To the man who shall make the experiment as to dung, for which a premium shall be obtained, 1 guinea.

To the servant that shall be employed in the working of horses and oxen, in husbandry work, on which a premium offered by this Society shall be awarded, 2 guineas.

At this meeting, Lord R. Manners and the Rev. P. Story were unanimously elected members of this Society.

In compliment to the services rendered by Mr. Cooke in his office of secretary, it is unanimously resolved that a

a piece of plate of 20 guineas value, (which Col. Noel, the president, is requested to procure) be presented to him. The meeting was then adjourned. Signed,

G. N. NOEL.

Col. Noel having left the chair, the unanimous thanks of the meeting were voted to him for his unremitting attention to the prosperity of the landed interest, by encouraging the improvement of the agriculture of the united counties of Leicester and Rutland.

APPENDIX.

APPENDIX.

THE Earl of Winchelsea's dike for washing sheep, being one of the most complete I ever saw, I requested a sketch of it, and was favoured with one by his lordship's agent, from which the subjoined sketch was taken. I very much recommend the plan to those who are so situated, in point of water, &c. as to have it in their power to adopt it. It would also be very advantageous for farmers living in three or four different parishes, to make a subscription dike after the plan; the conveniency and prevention of accidents would soon repay them for the expense, &c. attending the carrying it into execution.

One very principal advantage of the wash-dike is, the comfort which the washer receives from being dry, instead of standing the whole day in water, which is extremely injurious to his health.

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REFERENCES

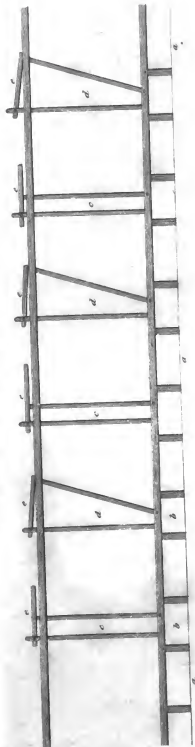
To Earl Winchelsea's Sheep Wash-Dike, at Burley.

- a. The pit for soaking, 12 feet long, 8 feet wide, and 4 feet in depth.
- b. The channel where the sheep are washed, 12 feet long, 3 feet 4 inches wide, and 3 feet 6 inches deep.
- c. A place for a man to stand to wash the sheep over the parapet wall.
- d. Stop-gate, to let off the water in case of floods, or when the pit needs emptying; on each side this stop-gate there are two holes, at two inches below top-water-mark, to let off the waste water into the outlet drain.
- e. Parapet wall, 3 feet 9 inches in height.
- f. Stop-gate, level with top-water-mark, so that when there is more water than will pass through the two holes before-mentioned, at the sides of stop-gate d, it runs over this gate.
- gg. Along this dotted line is a paved channel to take off the water, which run from the sheep at their landing, and conducts it into the outlet drain, so that it may not run into any part of the wash-dike again.
- h. The fold for the sheep, previous to their being thrown into the soaking-pit.
- ii. The sheep folds.
- k. Outlet drain to take off the waste water.
- l. House for the cloaths of the men, implements, &c. &c.
- m. Waste ground betwixt the river and the wash-dike.
- n. Breadth of water when held up by the stop-gates.
- o. Landing place for the sheep after they have been washed.
- ppp. The course of the river.

REFER-



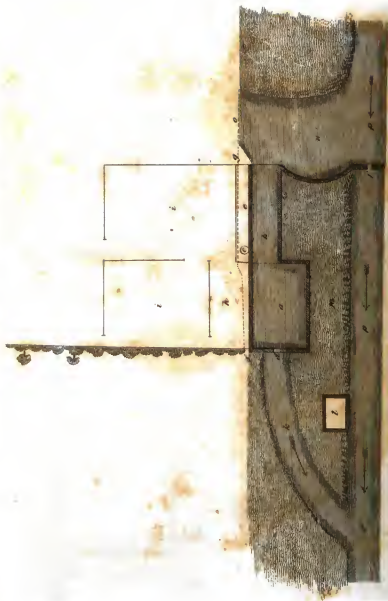
SKETCH OF EARL WINCHELSEA'S COW-HOUSE AT BURLEY.



Published Illustrated by J. P. Phillips, Bridge Street, Manchester, London.



SKETCH OF EARL WYCHELSEA'S SHEEP-WASH-DIKE AT HUTLEY.



REFERENCES

To Earl Winchelsea's Cow-House, at Burley.

IN THE UPPER SKETCH.

- aaa.* Are door ways, 3 feet 6 inches each wide, and 9 feet asunder.
- bb.* Space betwixt each cow-tie or fastener.
- ccc.* Represent the cow-ties when closed, and as they appear when the cows are fastened in them.
- ddd.* Represent the cows-ties open, and as they appear previous to the cows been fastened in them.
- eeeee.* In these top ledges are grooves and slots, and there being a joint at the hinder part of them, they are lifted up or down, and the cow-ties opened or shut at pleasure.

IN THE LOWER SKETCH.

- f.* Is a passage at the cows heads, 3 feet in width.
 - g.* The manger, 2 feet wide.
 - h.* A cow, as tied or fastened up.
 - i.* Space allotted for the cows standing, 8 feet deep.
 - k.* Space behind the cows, 3 feet 6 inches in width.
- The cows are only put in the ties marked *e*, during the time of milking, after which they are tied up by chains on each side of them.

The following List comprises the Names of the Gentlemen to whom I am indebted for the Information obtained, respecting the several Parishes, &c. in this County: I take this Method of returning them my sincere Thanks.

PLACES:	GENTLEMEN'S NAMES.
Ashwell,	Mr. William Webster.
Ayston,	George Fludyer, Esq.
Barleythorpe,	Mr. Thomas Hand.
Barrow,	William Chapman, Esq.
Barrowden,	Mr. John Baines.
Belton,	William Kemp, Esq.
Bishbrooke,	Mr. W. Green.
Braunston,	Rev. Richard Lucas.
Brooke,	Thomas Wood, Esq.
Burley,	Mr. Henry Wilson.
Caldecot,	Mr. Edward Muggleton.
Cipliam,	Rev. — Snow, T. Hack, Esq.
Cottesmore,	Mr. Thomas Dean.
Dry Stoke,	Thomas Brien, Esq.
Edithweston,	Robert Tomlin, Esq.
Egleton	Messrs. Stinson and Wilson.
Empingham,	Mr. Thomas Sysson.
Essendine,	Mr. W. Lupton.
Exton and Flittoris,	Wm. Chapman, Esq.
Glayston,	John Stranger, Esq.
Greetham,	— Gilson, Esq.
Gunthorpe,	Mr. John Barrett.
Hambleton,	Mr. H. Wilson.
Ketton,	Mr. W. Wilford.

PLACES.

PLACES.	GENTLEMEN'S NAMES
Langham	W. Chapman, Esq.
Little Casterton, . .	Mr. Robert Hare.
Lyddington,	Mr. Peach.
Lynden,	Samuel Barker, Esq.
Leafields & Martinthorpe,	Mr. H. Wilson.
Manton,	Mr. Thomas Lester.
Market Overton, . .	Rev. J. Hopkinson.
Morcot,	Mr. W. Barrow.
Normanton,	Mr. Thomas Sysson.
North Luffenham . .	John Morris, Esq.
Oakham,	Messrs. Banton and H. Wilson.
Pickworth,	Mr. John Clarke.
Pilton,	John Fancourt, Esq.
Preston,	W. Laurence, Esq.
Ridlington,	F. Cheseldine, Esq.
Ryall,	Mr. W. Lupton.
Seaton,	Rev. ——— Robinson.
South Luffenham, . .	{ Messrs. Allen, Springthorpe, { and ——— Pridemore.
Stretton,	Mr. Thomas Sysson.
Teigh,	Mr. John Hiuman.
Thistleton,	Mr. John Goodfellow.
Thorpe,	Mr. H. Baines.
Tickencote,	John Wingfield, Esq.
Tinwell,	Rev. Thomas Foster.
Tixover,	Mr. V. Godfrey.
Uppingham,	Messrs. Bullock and Clifton.
Wardley,	George Godfrey, Esq.
Wing,	Mr. R. Gregory.
Wissendine,	Mr. W. Floor.
Witnell,	Wm. Chapman, Esq.

*An Account of Earl Winchilsea's Farm Stock at Burley,
in August, 1806.*

ARABLE LAND.

			A.	R.	P.
In wheat,	-	-	13	2	33
— barley,	-	-	21	0	0
— oats,	-	-	29	0	0
— beans,	-	-	6	0	0
— peas,	-	-	8	0	0
— tares,	-	-	2	0	0
— rye,	-	-	1	0	0
— buckwheat,	-	-	4	2	0
— spring, do.	-	-	2	0	0
— potatoes,	-	-	2	0	0
— Swedish turnips,	-	-	9	2	0
— white, do.	-	-	5	2	0
— cole-worts,	-	-	5	0	0
— cabbage,	-	-	1	2	0
— seeds,	-	-	71	1	0

Total in cropping, - - 181 3 33

Supposed to be taken up by }
hedges, } 2 0 0

Total arable land, - - - 183 3 33

N. B. More seeds this year than is usual.

Grazing land,	-	-	214	0	35
Wood land sometimes grazed,	-	-	94	1	34
Meadow land,	-	-	59	0	0

Total, - 551 2 22

STOCK.

STOCK.

CATTLE.

Beast feeding	-	-	46	}	125
Draught beasts	-	-	10		
Stores, including young heifers, &c.			26		
Milch cows	-	-	20		
Calves rearing	-	-	20		
Bulls	-	-	3		

SHEEP.

Breeding ewes	-	-	197	}	966
Lambs	-	-	222		
Shear hogs	-	-	304		
Theaves	-	-	181		
Ewes and sheep feeding	-	-	58		
Rams	-	-	4		

Pigs - - - 61

Horses kept, but not half of them for the
work of the farm - - - 11

Total of Live Stock - 1163

FINIS.

J. G. Barnard, Printer, Skinner-Street.

DIRECTIONS TO THE BINDER,

FOR PLACING THE PLATES.

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ERRATA.

Page 34, line 4, from the top, for <i>to</i> read <i>two</i> .	
132, — 13, ——— for <i>crag</i> read <i>scrag</i> .	
133, — 13, from the bottom, for <i>wool</i> read <i>not wool</i> .	
106, — 11, ——— for <i>forest trees</i> read <i>Scotch fir and other firs</i> .	



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